

Service Manual

Portable Stereo CD System

Radio Cassette

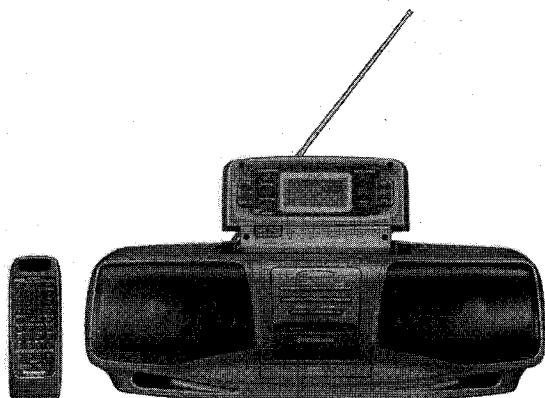
RX-DT07

Colour

(K) : Black

COMPACT
disc
DIGITAL AUDIO

MASH*
multi-stage noise shaping



Areas

Suffix for Model No.	Area	Colour
(EB)	Britain	(K)
(EG)	Europe and Germany	

Tape Deck: AR300 Mechanism Series
Traverse Deck: RAE0113Z Mechanism Series

Specifications

General:

Power Requirement:	AC; 230 – 240 V, 50 Hz
Battery	15 V (Ten UM-1, R20 / LR20 batteries)
Memory Back-up for Computer / Clock	6 V (Four UM-3, R6 / LR6 batteries)
Power Consumption:	46 W (AC only)
Power Output:	60 W (PMPO)
Speakers:	
Woofer	10 cm PM Dynamic speaker, 2.7Ω
Tweeter	1.4 cm Ceramic speaker
Input:	
MIX MIC	2 mV, 200-600Ω, Ø3.5
AUX	400 mV, 47 kΩ, Ø3.5
Output:	PHONES; 32Ω, Ø3.5
Dimensions:	565 (W) × 188 (H) × 291 (D) mm (Top panel closed)
Weight:	6.4 kg without batteries

CD Player:

Sampling Frequency:	44.1 kHz
Decoding:	16-bit linear
Beam Source:	Semiconductor laser (wavelength 780 nm)
No. of Channels:	2 channels, stereo
Wow and Flutter:	Less than possible measurement data
D/A Converter:	MASH (1 bit DAC)

Radio :

Frequency Range:

LW	144 – 288 kHz (9 kHz steps)
MW	522 – 1611 kHz (9 kHz steps)
FM	87.5 – 108.0 MHz (50 kHz steps)

Intermediate Frequency:

FM	10.7 MHz
LW/MW	459 kHz

Sensitivity:

LW	100 μV/m/ 0.5 mW H.P. output (Max.)
MW	126 μV/m/ 0.5 mW H.P. output (Max.)
FM	3.5 μV/ 0.5 mW H.P. output (-3 dB Limit Sens.)

Tape Recorder :

Frequency Range:

Normal	30 – 16,000 Hz
CrO₂	30 – 17,000 Hz

Recording System:

AC bias, AC erase

Tape Speed:

4.8 cm/s

Monitor System:

Variable sound monitor

Track System:

4-track, 2-channel, stereo recording and playback

*MASH is a trademark of NTT.

Notes:

1. Weight and dimensions shown are approximate.
2. Design and specifications are subject to change without notice.

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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CAUTION:

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Precaution of Laser Diode

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick up lens.
Wave length: 780 nm
Maximum output radiation power from pick up: 100 μ W/VDE

Laser radiation from the pick up unit is safety level, but be sure the followings:

1. Do not disassemble the pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

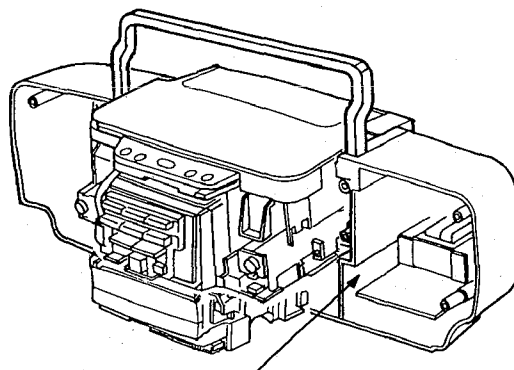
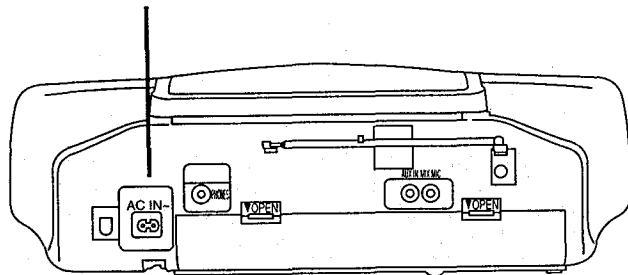
ACHTUNG: Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit adgestrahlt.
Wellenlänge: 780 nm
Maximale strahlungsleistung der lasereinheit: 100 μ W/VDE

Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werksseitig justierten einstellregler der lasereinheit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.

CLASS 1
LASER PRODUCT

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING. NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTASSA JA SUOJALUKITUS OHITETTAESSA OLET ALLTIINNA NÄKYMÄTÖNTÄ LASERISÄTEILYLLÄ. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSIHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

■ Caution for AC Mains Lead [for (EB) area]

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

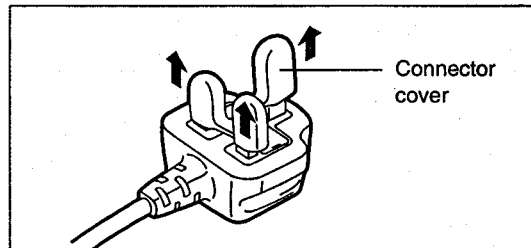
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

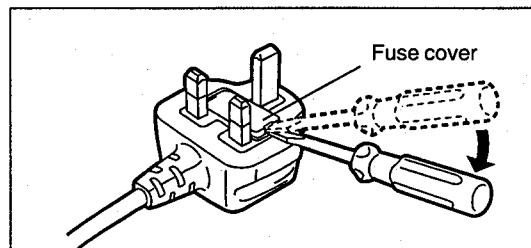
Before use

Remove the connector cover as follows.

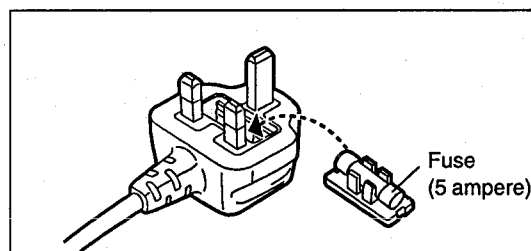


How to replace the fuse

1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



■ Location of Controls

Common operations

- ① Top panel open, close buttons (TOP PANEL OPEN, CLOSE)
- ② Power "STANDBY $\odot$ (AC)/ON" switch
[POWER, STANDBY $\odot$ (AC)/ON]
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ③ Volume buttons (VOLUME +, -)
- ④ Display section
- ⑤ Memory button (MEMORY)
- ⑥ Select buttons (TIME SET/TUNING/CD +, -)
- ⑦ Clock check/adjust button ($\bullet$ CLOCK CHECK/ $\blacksquare$ ADJUST)
- ⑧ Timer check/adjust button ($\bullet$ TIMER CHECK/ $\blacksquare$ ADJUST)
- ⑨ Timer button (TIMER) ($\bullet$ PLAY $\bullet$ REC)
- ⑩ Preset equalizer button (PRESET EQ)
- ⑪ Auxiliary input button (AUX)
- ⑫ Remote control signal sensor (SENSOR)
- ⑬ Power/battery check/standby indicator (POWER/BATT, STANDBY $\odot$)
The indicator lights green when the unit is turned on. When the AC power supply is used, it functions as an AC connection indicator. (The indicator colour changes to red when the unit is turned off.)
When the unit is operated on batteries, it functions as a battery check indicator.
- ⑭ Surround button (SURROUND)

Tuner section **A**

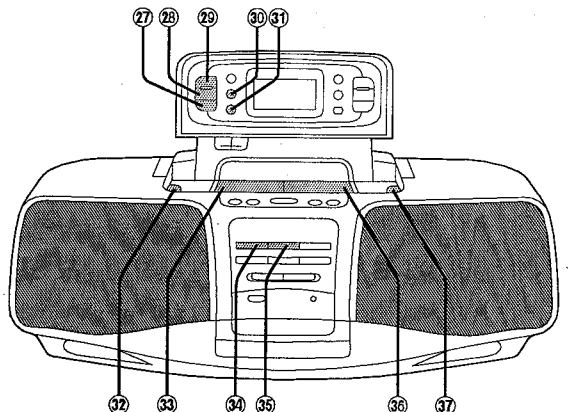
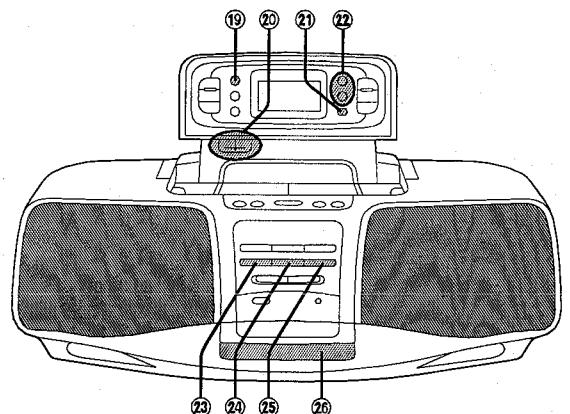
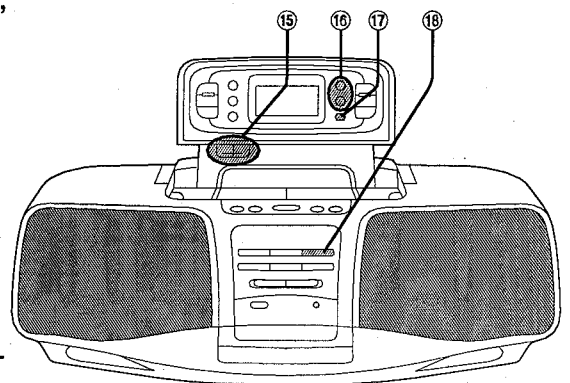
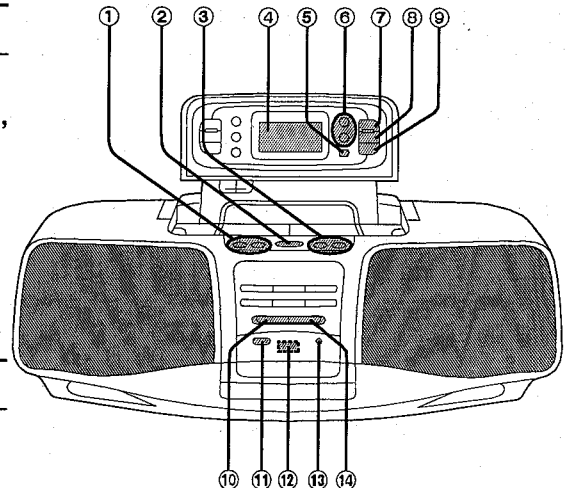
- ⑮ Preset tuning buttons (CD/PRESET TUNING $\square \lll / v$, $\ggg / \wedge$)
- ⑯ Tuning buttons (TIME SET/TUNING/CD, +, -)
- ⑰ Memory button (MEMORY)
- ⑱ Band select button (BAND)

CD section **B**

- ⑲ Easy CD record button (EASY CD REC)
- ⑳ Skip/search buttons (CD/PRESET TUNING $\square \lll / v$, $\ggg / \wedge$)
- ㉑ Program button (MEMORY)
- ㉒ Select buttons (TIME SET/TUNING/CD, +, -)
- ㉓ Play/pause button ($\triangleright / \square$)
- ㉔ Stop/clear button ($\square$ /CLEAR)
- ㉕ CD tray open/close button ($\triangle$)
- ㉖ CD tray

Cassette deck section

- ㉗ Deck 1/deck 2 select button (DECK 1/2)
- ㉘ Rewind/TPS button (REW $\square$ TPS)
- ㉙ Fast forward/TPS button (FF $\square$ TPS)
- ㉚ Recording/rec pause button (REC/REC PAUSE)
- ㉛ Tape edit button (TAPE EDIT) ($\bullet$ NORMAL $\bullet$ HIGH)
- ㉜ Deck 1 cassette lid open lever ($\triangle$ EJECT)
- ㉝ Deck 1 (Playback)
- ㉞ Playback/direction button ($\triangleleft \triangleright$)
- ㉟ Stop button ($\square$)
- ㊱ Deck 2 (Playback/Recording)
- ㊲ Deck 2 cassette lid open lever ($\triangle$ EJECT)



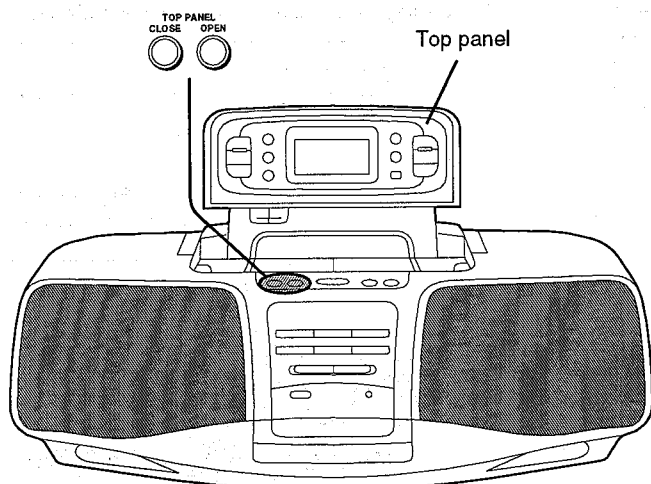
Common Operations

Opening the top panel

Press **TOP PANEL OPEN** to open the panel.

Press **TOP PANEL CLOSE** to close the panel.

When this unit is operated on battery power, the panel cannot be opened or closed by pressing OPEN or CLOSE on the remote control in the unit off mode. Turn the unit on first by pressing POWER on the main unit before opening or closing the panel.



Setting the Clock

The clock has a 24-hour display.

Example:

Setting the clock to 16:20;

1 Press POWER.

(This turns the unit on.)

2 Press • CLOCK CHECK / ➡ ADJUST and hold until the time display starts flashing.

3 While the time display is flashing; Press + or - to show desired time.

4 Press MEMORY.

(The clock now starts operating, and the display returns to its original status.)

To display the clock (when the unit is on):

Press • CLOCK CHECK / ➡ ADJUST.

Selecting the Display **A**

(Available only from the remote control)

This operation comes in handy to check the present time during play or the tape counter display during recording.

Press DISPLAY.

→ Play status → Present time → Tape counter

(The display changes each time the button is pressed.)

"----" appears on the tape counter display when a tape has not been loaded.

Beep tone

When one of the function buttons is pressed, one beep is heard to verify that the button has been properly operated. When one of the buttons has been pressed in error, two beeps are heard as a warning.

If you prefer not to have the beep tone function:

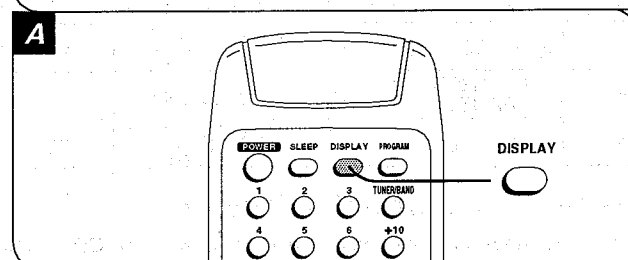
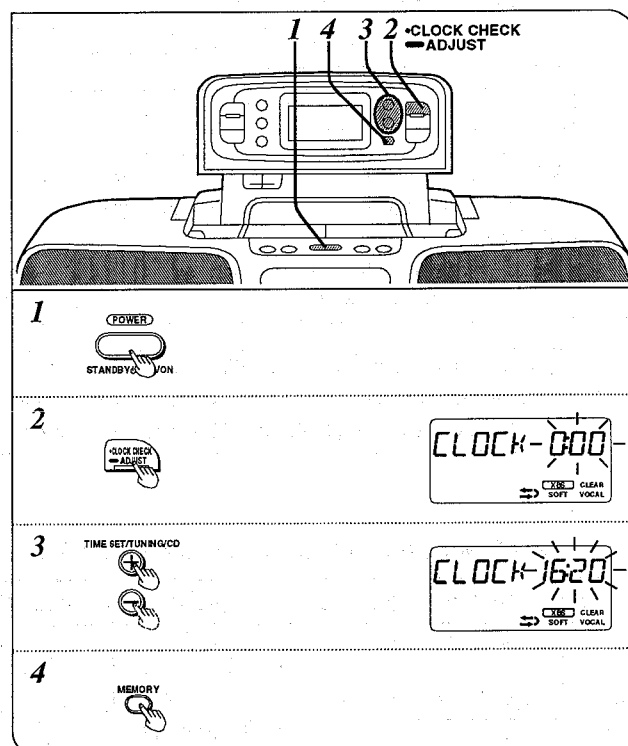
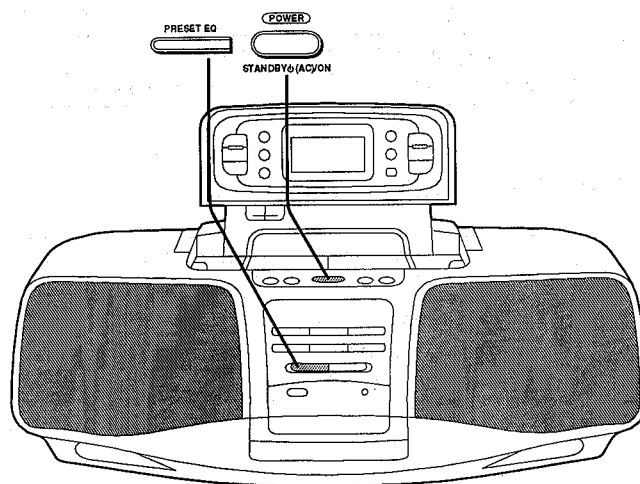
(Main unit only)

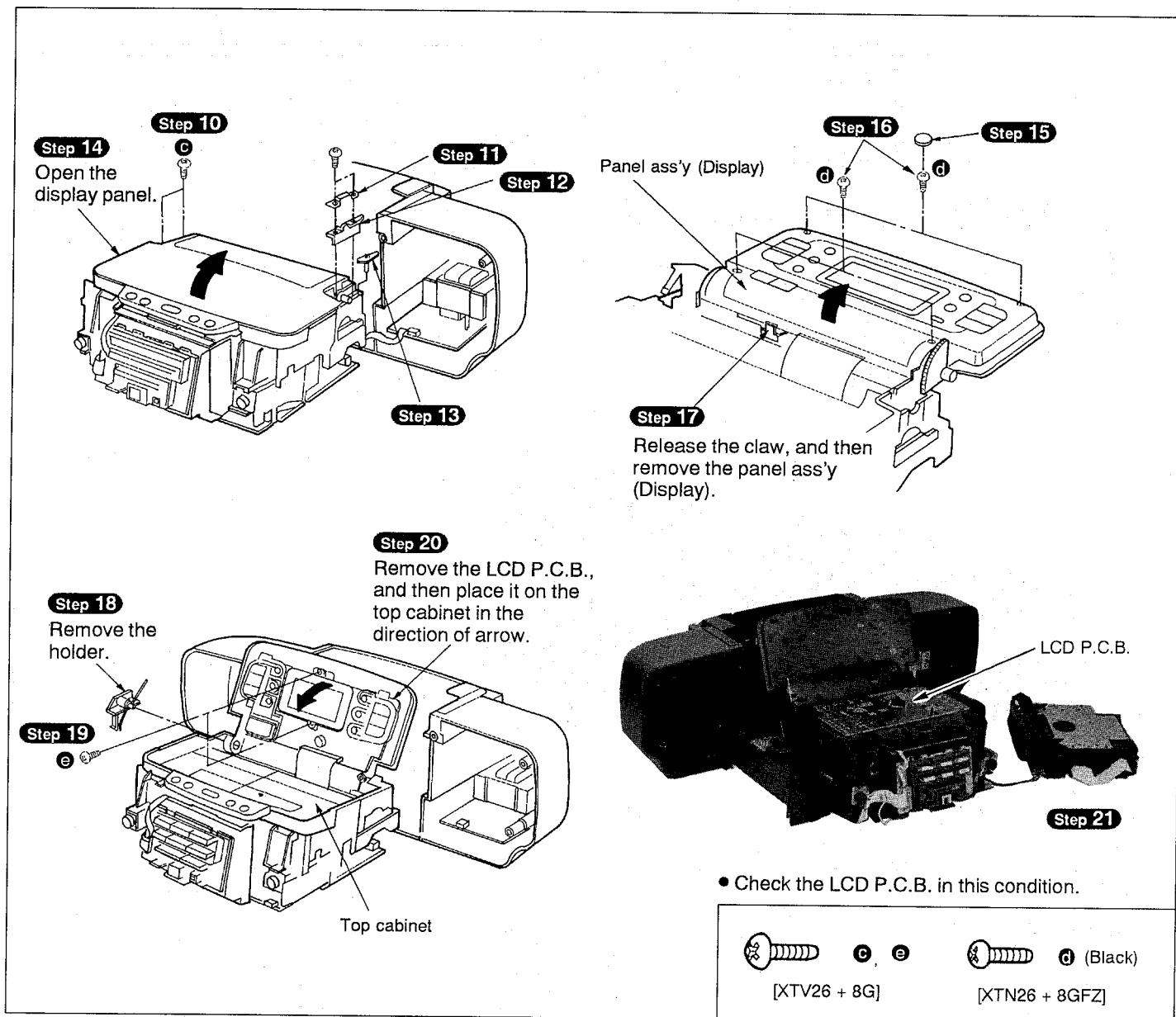
In the unit-off mode, press POWER while holding PRESET EQ down.

The "BEEP" display appears first followed by "OFF".

To resume the beep, repeat the same operation in the unit-off mode.

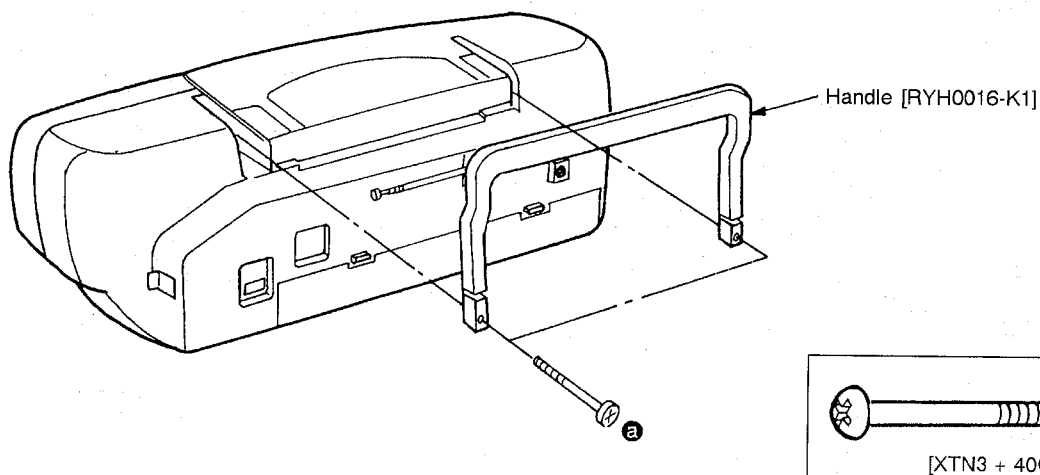
(The "BEEP" display appears first followed by "ON".)





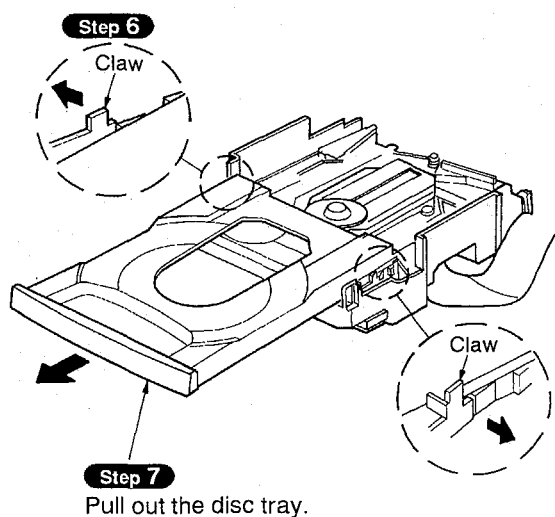
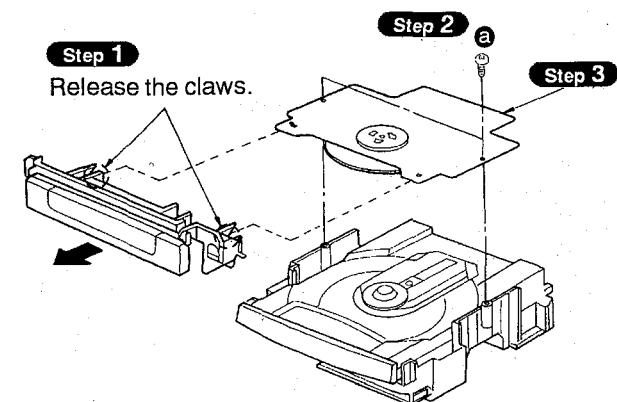
■ Main Component Replacement Procedures

1. Replacement for the handle

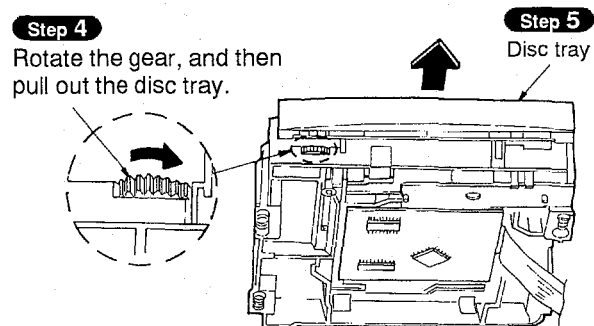
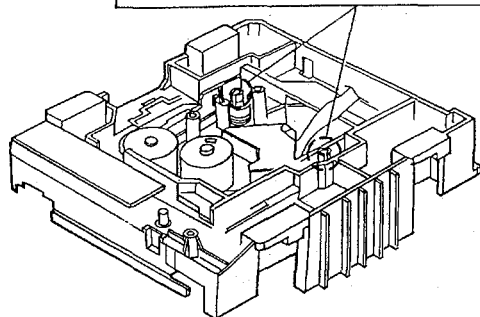
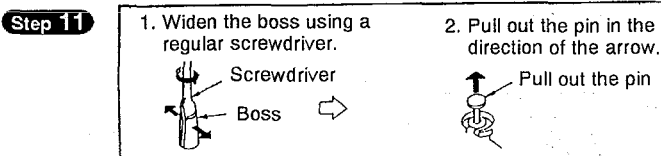
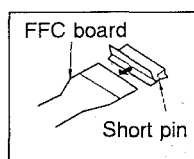


2. Replacement for the traverse deck

- Follow the item 1 (**Step 1** ~ **Step 7**) in checking procedures for each P.C.B. on page 8.

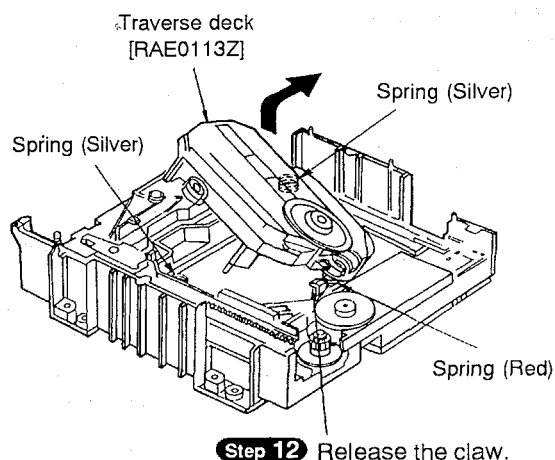
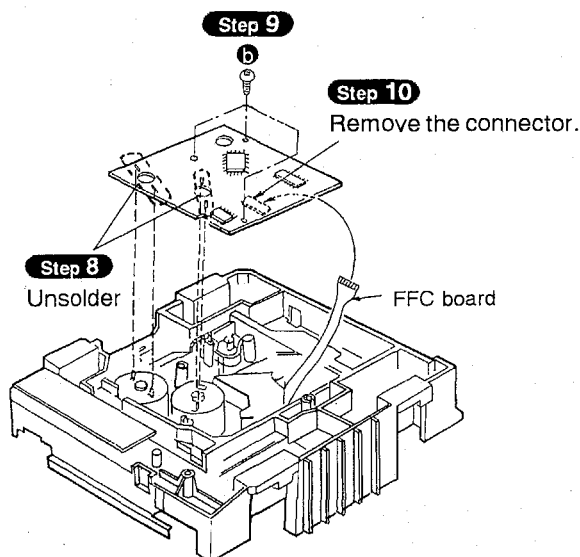
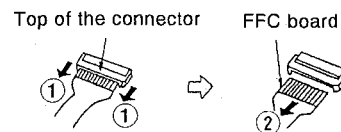


Caution:
Insert a short pin into the traverse unit FFC board.
(Refer to "Handling Precautions for Traverse Deck" on page 7.)



Removal of the connector

Slide the top of the connector in the direction of arrow ① and disconnect the FFC board in the direction of the arrow ②.

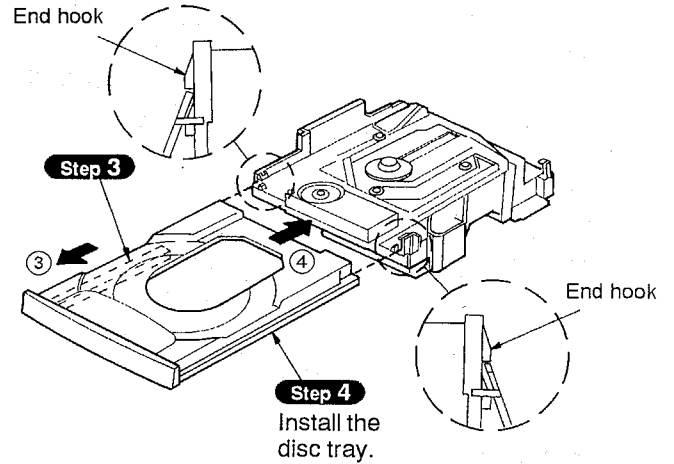
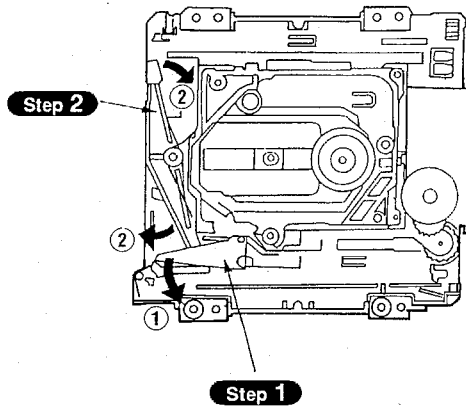


NOTE

Be careful not to lose the 3 springs because those will also be removed on removal of the traverse unit ass'y.

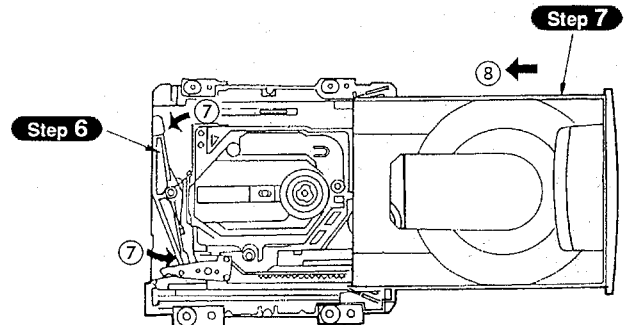
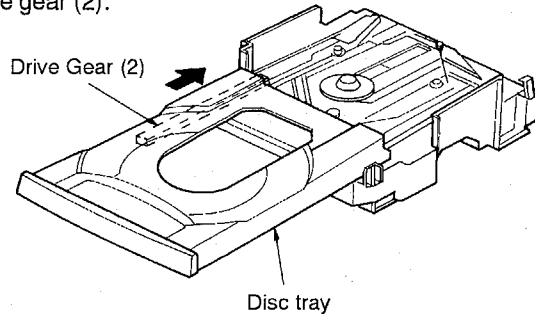
Installation of the disc tray after replacement

- Push the disc tray in the direction of arrow until the end hooks are latched.



Step 5

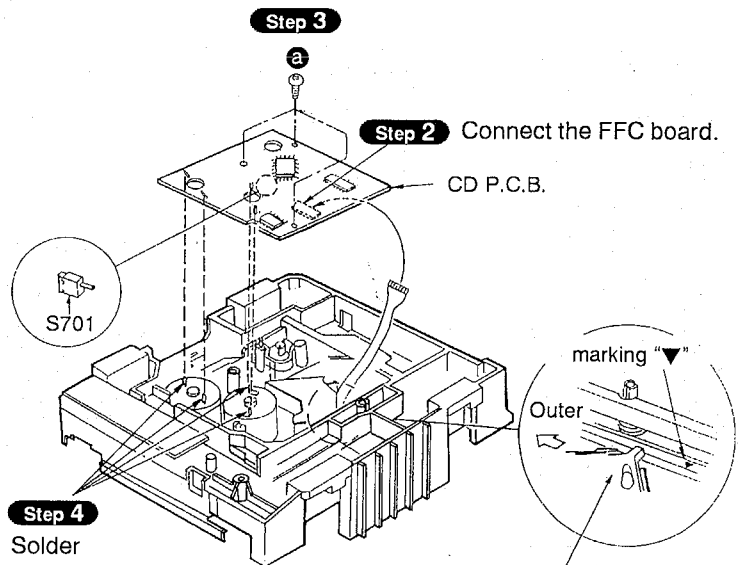
Hold the disc tray and slide the drive gear (2).



Installation of the CD P.C.B. after replacement

- Step 1** Install the CD P.C.B. in the traverse deck ass'y.

Before installing the CD P.C.B., move the optical pickup toward the outer edge from the mark "▼".
[Otherwise, the rest detect switch (S701) mounted on the CD P.C.B. may be damaged.]



- Install the optical pickup toward the outer edge from the mark "▼".

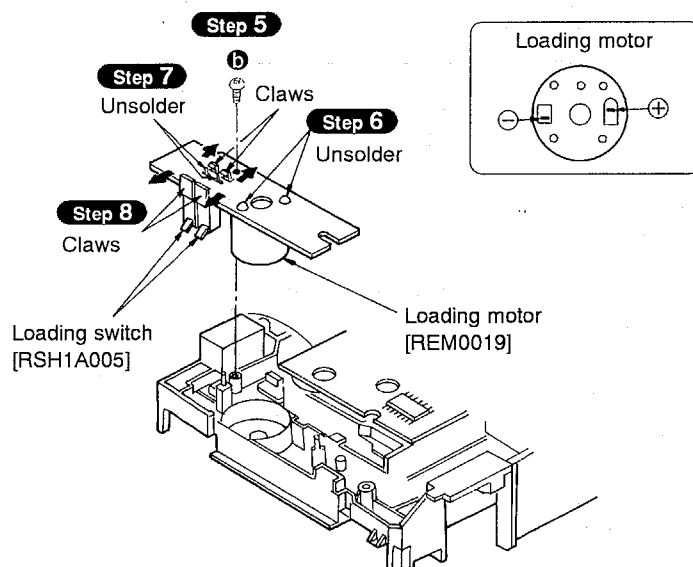
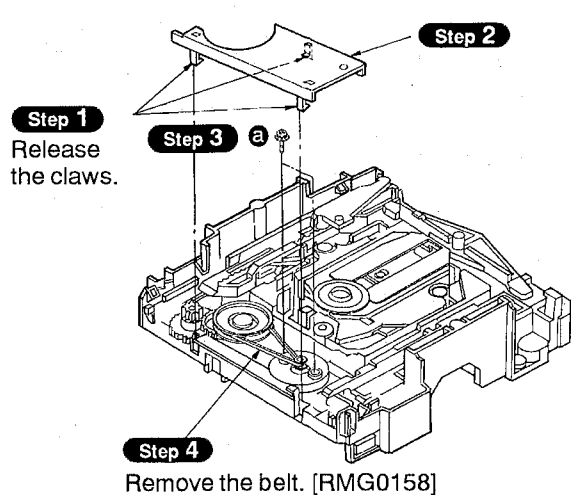


a

[XTV2 + 6G]

3. Replacement for the belt, loading motor and loading switch

- Follow the item 1 (**Step 1** ~ **Step 7**) in checking procedures for each P.C.B. on page 8.
- Follow the item 2 (**Step 1** ~ **Step 7**) in main component procedures on page 13.



a

[XYN2 + F6FZ]

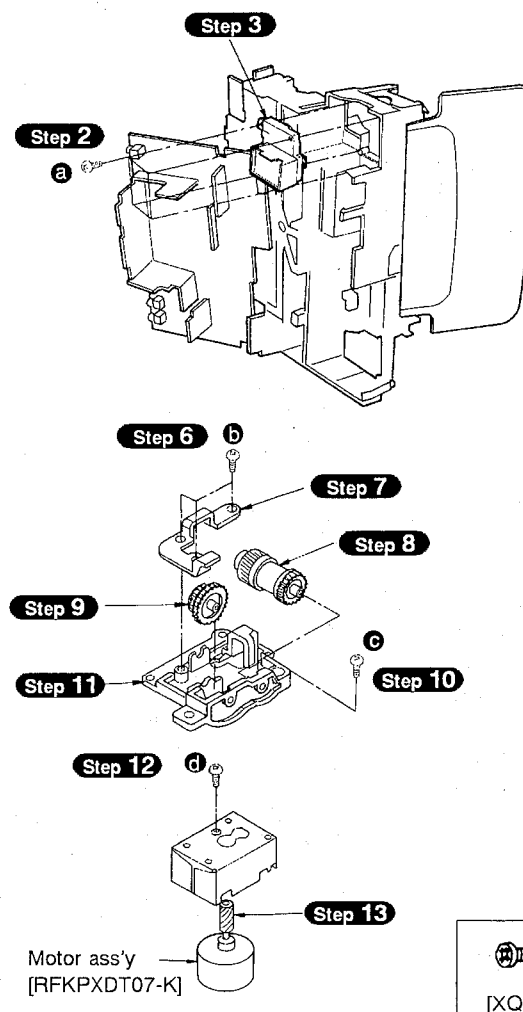
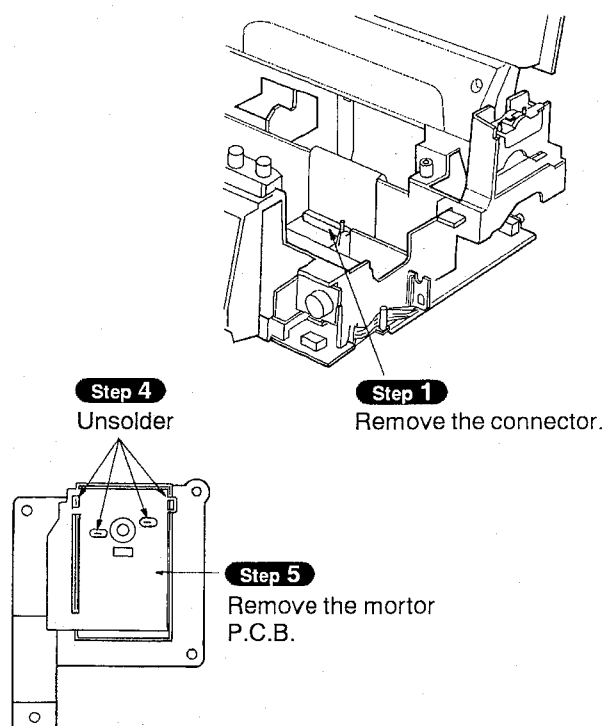


b

[XTN26 + 6G]

4. Replacement for the motor ass'y

- Follow the item 3 (**Step 1** ~ **Step 16**) in checking procedures for each P.C.B. on pages 10 and 11.



a

[XTV3 + 12G]



b

[XTV26 + 12F]



c

[XQN2 + C6]



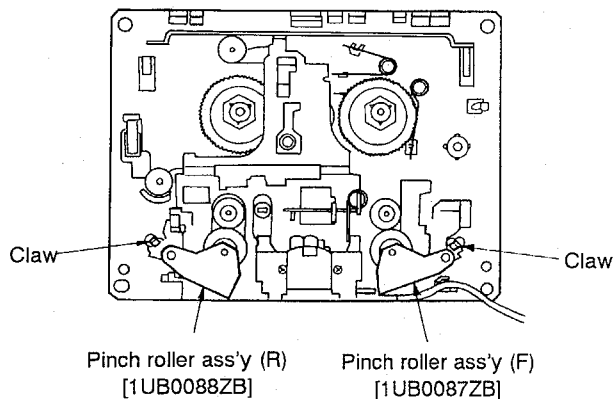
d

[XQN2 + C3]

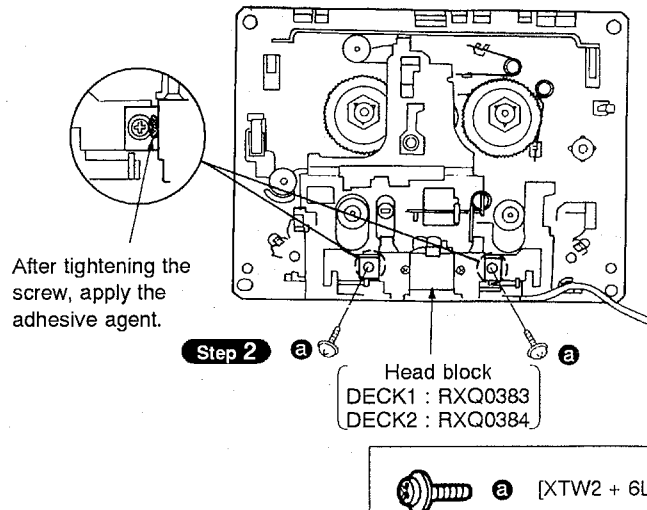
5. Replacement for the pinch roller ass'y and head block

- Follow the item 2 (**Step 1** ~ **Step 13**) in checking procedures for each P.C.B. on page 9.

Step 1 Release the claws, and then remove the pinch roller ass'y.

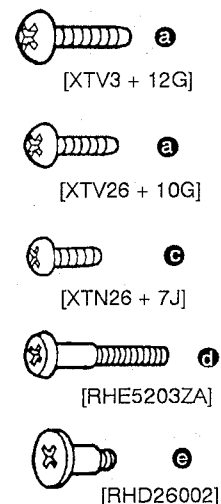
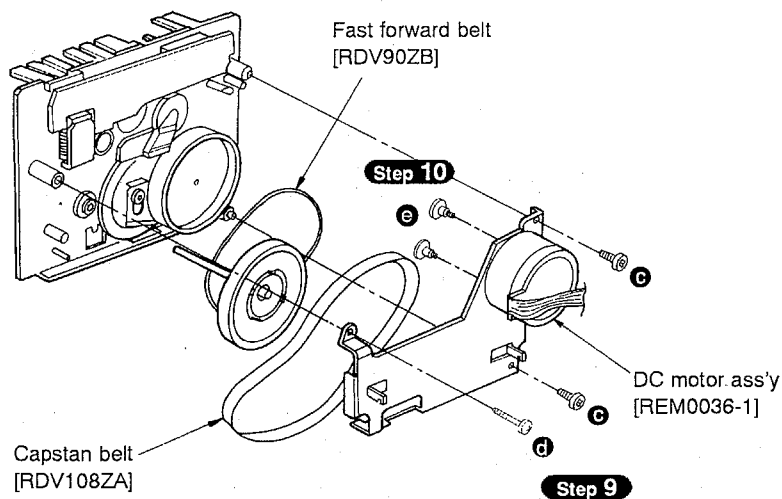
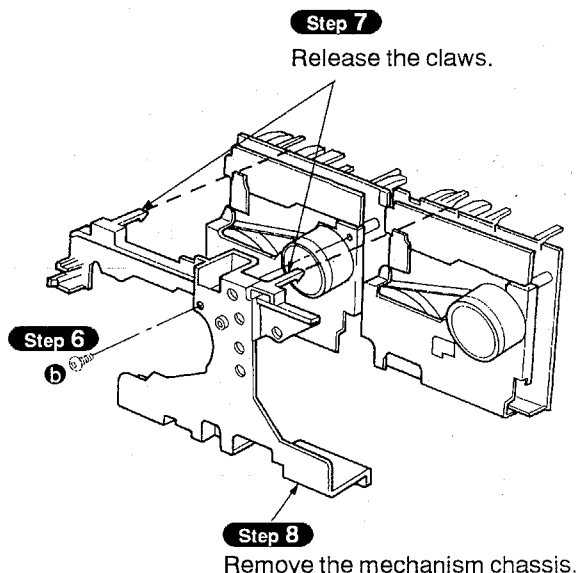
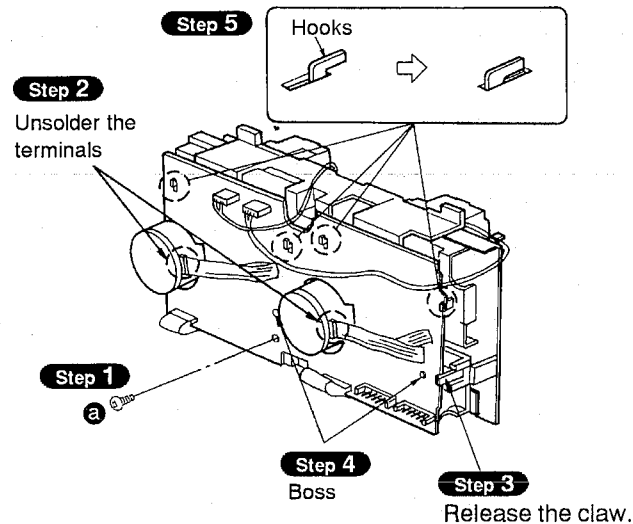


- The below illustration shows DECK 1 mechanism. For DECK 2 mechanism, disassemble the same as DECK 1 mechanism.



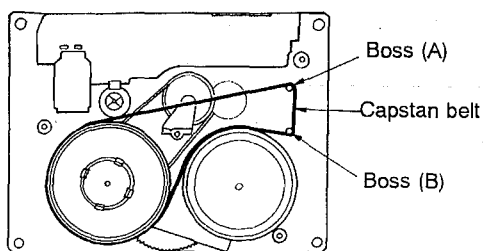
6. Replacement for the DC motor ass'y, capstan belt and fast forward belt

- Follow the item 2 (**Step 1** ~ **Step 13**) in checking procedures for each P.C.B. on page 9.

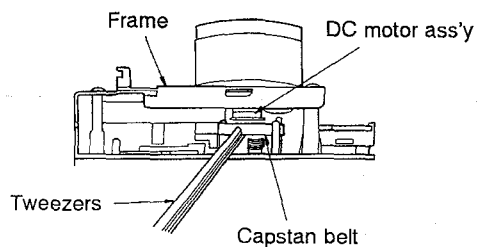


Installation of the capstan belt after replacement

Step 1 Temporarily secure the belt as shown below.



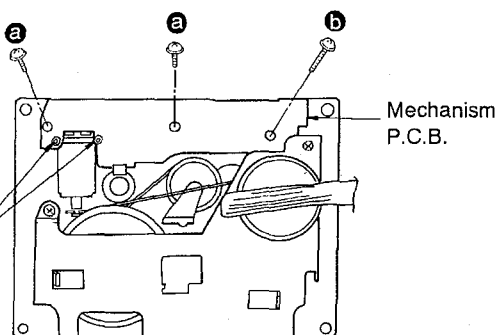
Step 2 Secure the belt with the capstan motor pulley.



7. Replacement for the plunger ass'y and the parts mounted on mechanism P.C.B.

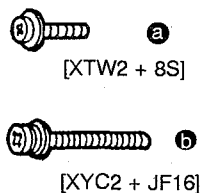
- Follow the item 2 (**Step 1** ~ **Step 13**) in checking procedures for each P.C.B. on page 9.
- Follow the item 6 (**Step 1** ~ **Step 3**) in main component procedures on page 16.

Step 1



Step 2

Unsolder the terminals

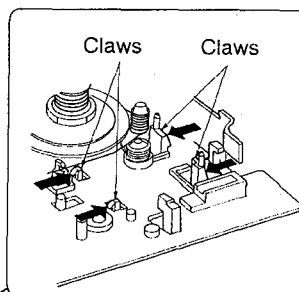


NOTE

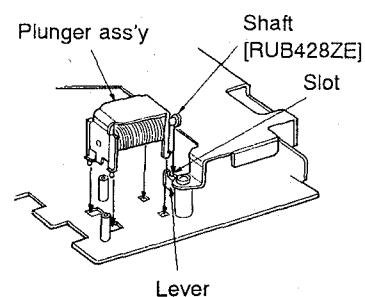
Notice for installing the plunger ass'y

- The shaft of plunger ass'y be aligned with the slot of lever.

Step 3

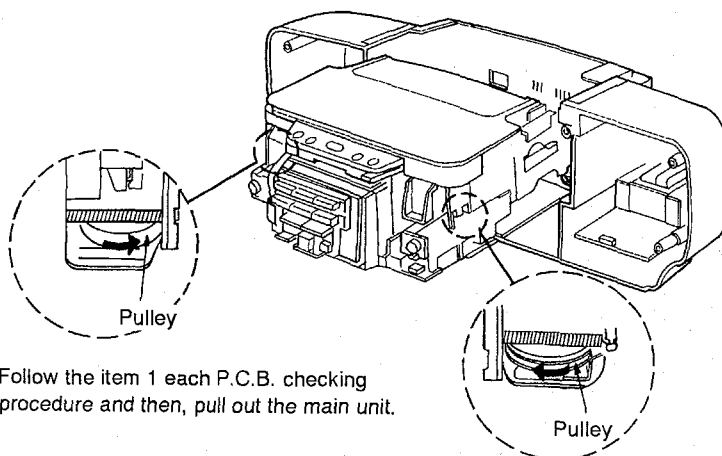


Plunger ass'y
[1UE0015ZA]



Measure for tape trouble

If a cassette tape cannot be removed from the deck since the tape is caught by the capstan or pinch roller during playback or recording, rotate the pulley in the direction of the arrow to remove the tape.



- Follow the item 1 each P.C.B. checking procedure and then, pull out the main unit.

Schematic Diagram

	Page
A CD circuit	19, 20
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C Mechanism control circuit	23~25
D Mechanism circuit (DECK2)	25
E Mechanism circuit (DECK1)	25
F LCD circuit	26, 27
G Connector circuit	28
H Motor circuit	28
I Operation (1) circuit	28

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J Operation (2) circuit	28
K Main circuit	28~32
L Loading motor circuit	32
M Connector (2) circuit	32
N Connector (3) circuit	32
O Tweeter (L) circuit	32
P Tweeter (R) circuit	32
Q Power supply circuit	32
R LED circuit	32

< CD circuit >

- S701 : Rest switch.

< Mechanism control circuit >

- VR301 : DECK2 tape speed adjustment VR. (High speed)
- VR302 : DECK2 tape speed adjustment VR. (Normal speed)
- VR303 : DECK1 tape speed adjustment VR. (Normal speed)

< Mechanism circuit DECK2 >

- S971 : Mode detect switch.
- S972 : Cassette tape insertion detect switch.
- S973 : Reverse side record prevention tab detect switch.
- S974 : Forward side record prevention tab detect switch.
- S975 : CrO₂ tape detect switch.

< Mechanism circuit DECK1 >

- S951 : Mode detect switch.
- S952 : Cassette tape insertion detect switch.
- S953 : CrO₂ tape detect switch.

< LCD circuit >

- S790 : Disc tray close detect switch.
- S791 : Disc tray open detect switch.
- S801 : Clock check / adjust switch. (CLOCK CHECK / ADJUST)
- S802 : Timer check / adjust switch. (TIMER CHECK / ADJUST)
- S803 : Timer switch. (TIMER)
- S804 : Memory switch. (MEMORY)
- S805 : Select switch. (TIME SET / TUNING / CD -)
- S806 : Select switch. (TIME SET / TUNING / CD +)
- S807 : Easy CD record switch. (EASY CD REC)
- S808 : Tape edit switch. (TAPE EDIT)
- S809 : Recording / rec pause switch. (REC / REC PAUSE)
- S810 : DECK1 / DECK2 select switch. (DECK1/2)
- S811 : Fast forward / TPS switch. (FF TPS)
- S812 : Rewind / TPS switch. (REW TPS)
- S813 : Preset tuning / skip / search switch. (◀◀ / V)
- S814 : Preset tuning / skip / search switch. (▶▶ / ^)

< Operation (1) (2) circuit >

- S1001 : CD tray open / close switch. (▲)
- S1002 : Top panel close switch. (CLOSE)
- S1003 : Top panel open switch. (OPEN)
- S1004 : Power switch. (POWER, STANDBY  (AC) / ON)
- S1005 : Volume switch. (VOLUME -)
- S1006 : Volume switch. (VOLUME +)
- S1007 : Playback / direction switch. (◀▶)
- S1008 : Stop switch. (■)
- S1009 : Band select switch. (BAND)
- S1010 : Stop / clear switch. (■ / CLEAR)
- S1011 : Play / pause switch. (▶ / ||)
- S1012 : Preset equalizer switch. (PRESET EQ)

- S1013 : Surround switch. (SURROUND)
- S1014 : Auxiliary input switch. (AUX)

< Power supply circuit >

- S901 : AC / DC select switch in "DC" position.

Battery current:

Vol. min...200 mA (FM)	Vol. max...1300 mA (FM)
190 mA (MW/LW)	930 mA (MW/LW)
260 mA (TAPE)	1600 mA (TAPE)
380 mA (CD)	1840 mA (CD)

Measurement instruction

MW/LW:	74 dB/m, 30% Mod.
FM:	60 dB, 30% Mod.
TAPE:	315 Hz, 0 dB
CD:	1 kHz, 0 dB

- DC voltage measurements are taken with electronics voltmeter. The negative terminal of the battery provides negative meter connection point.

No mark	TAPE PLAYBACK	「	」		TUNER
()	MW/LW	<	>		FM
(())	CD	[	]		AUX
[]	REC	<<	>>		HIGH SPEED EDIT

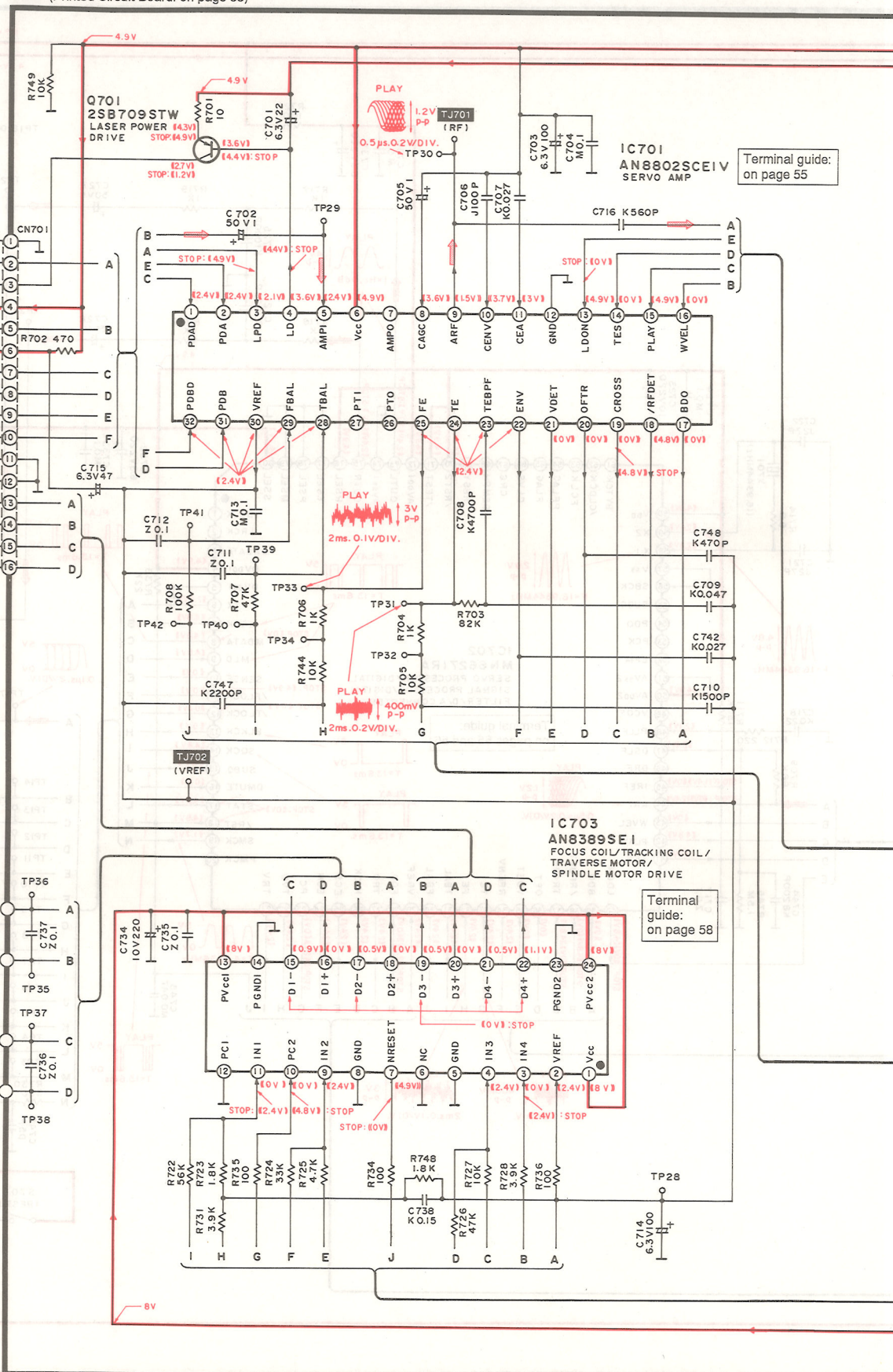
Important safety notice

Components identified by  mark have special characteristics important for safety.

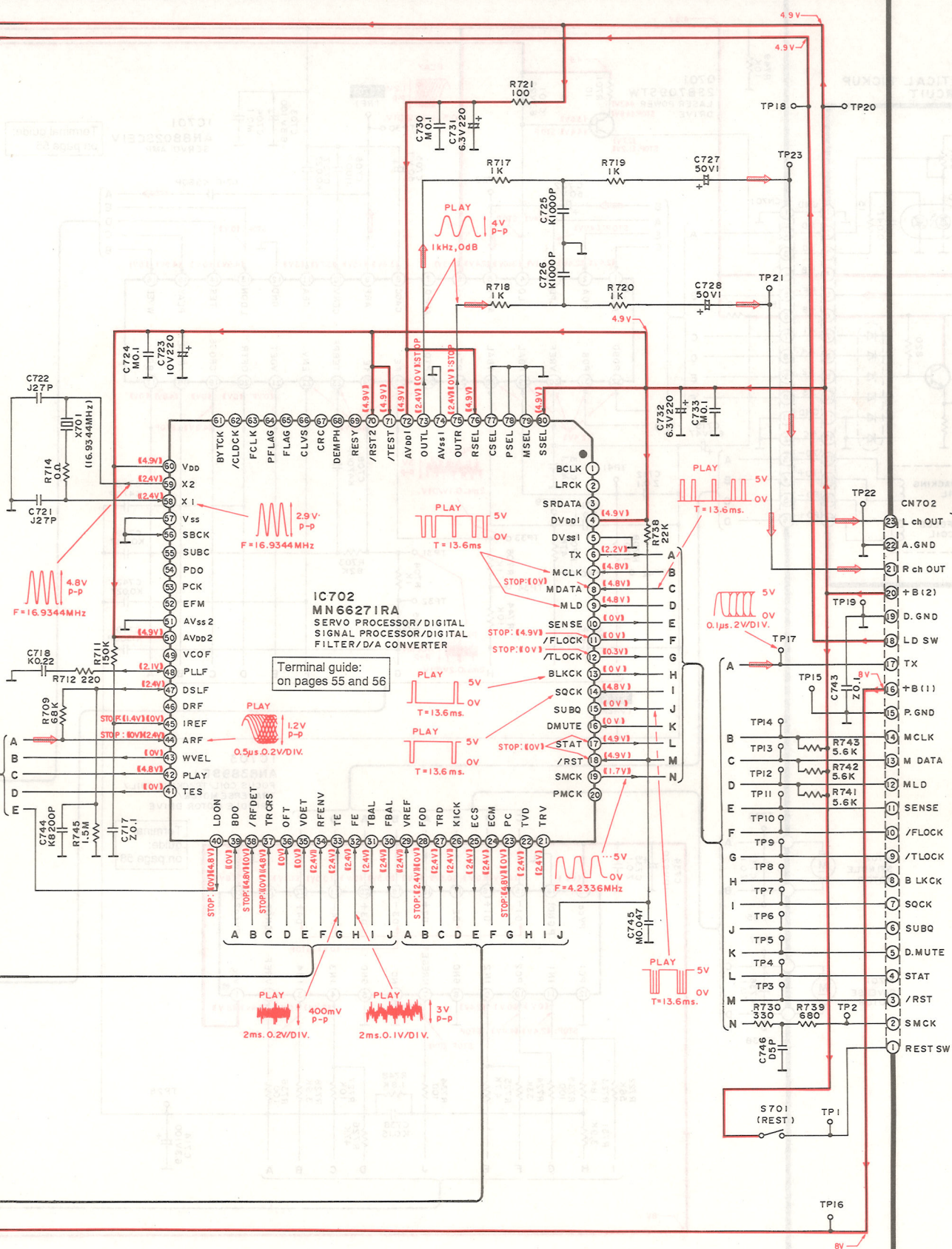
When replacing any of these components, use only manufacturer's specified parts.

- This schematic diagram may be modified at any time with the development of new technology.

(Printed Circuit Board: on page 33)



→ : CD Signal Line → : +B Line



To K MAIN
CIRCUIT
(CS702)
(Page 30)

(Printed Circuit Board: on page 33)



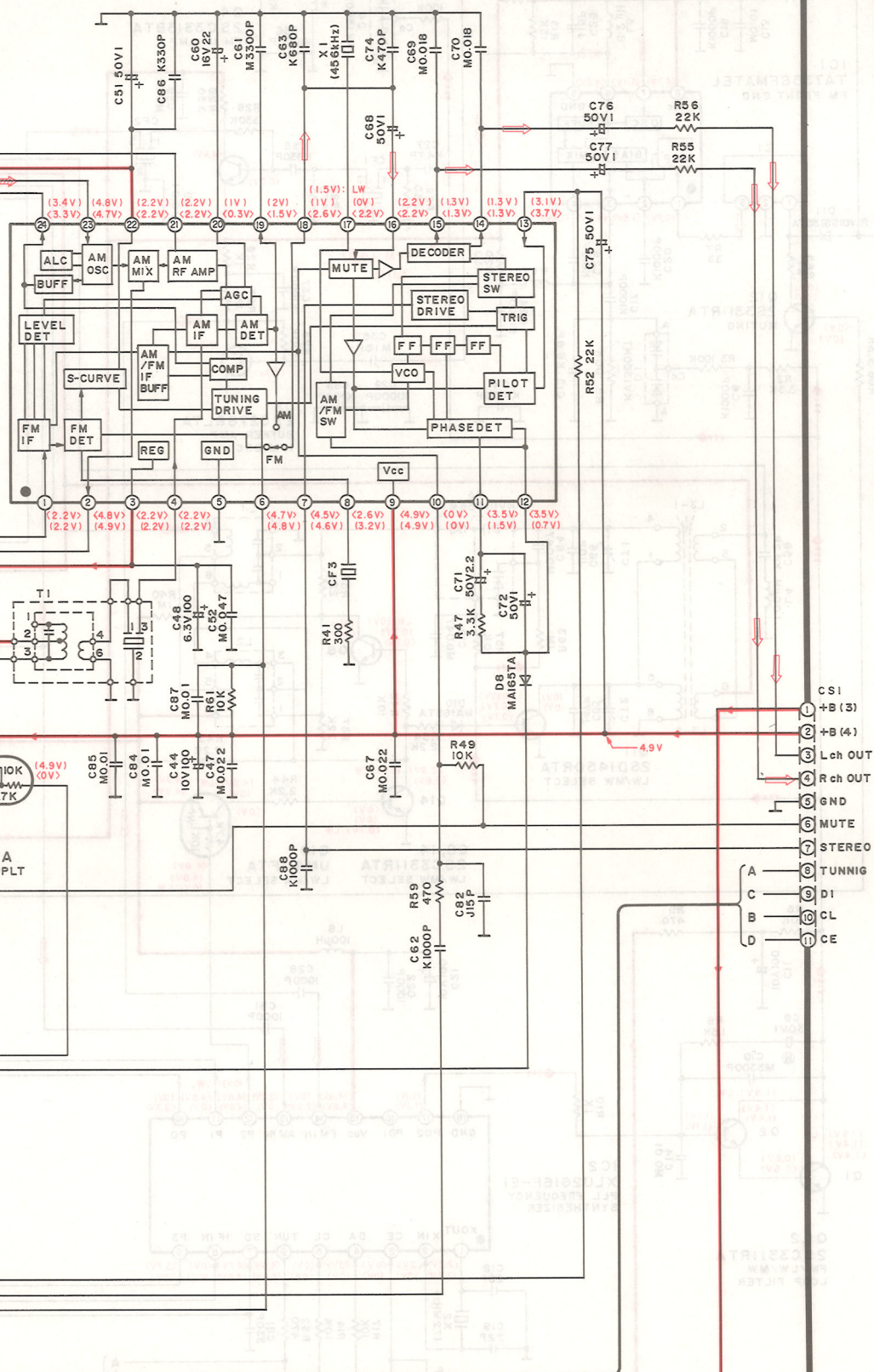
 : FM Signal Line
  : FM OSC Signal Line
  : MW/LW OSC Signal Line
 : FM/MW/LW Vcap Control Signal Line
 : +B Line

IC3
LA1832MS-TEL
 FM/AM IF AMP,
 DET & AM OSC,
 MIX/FM MPX

R30 8.2K

(4.9V)
 (4.9V)
 (4.8V)
 (10V)

Q5
UN411FTA
 POWER SUPPLY
 (FM: ON)



To **CS1** CONNECTOR
 (2) CIRCUIT
 (CS13)
 (Page 32)

→ : Tape Playback Signal Line

□□□→ : Record Signal Line

→ : +B Line

C MECHANISM CONTROL CIRCUIT

(Printed Circuit Board: on page 34)

DECK 1

L ch

PLAYBACK HEAD

R ch

DECK 2

L ch

R/P HEAD

R ch

ERASE HEAD

C332
K470P

CP302

C101
K470PC201
K470P

CP301

TP6

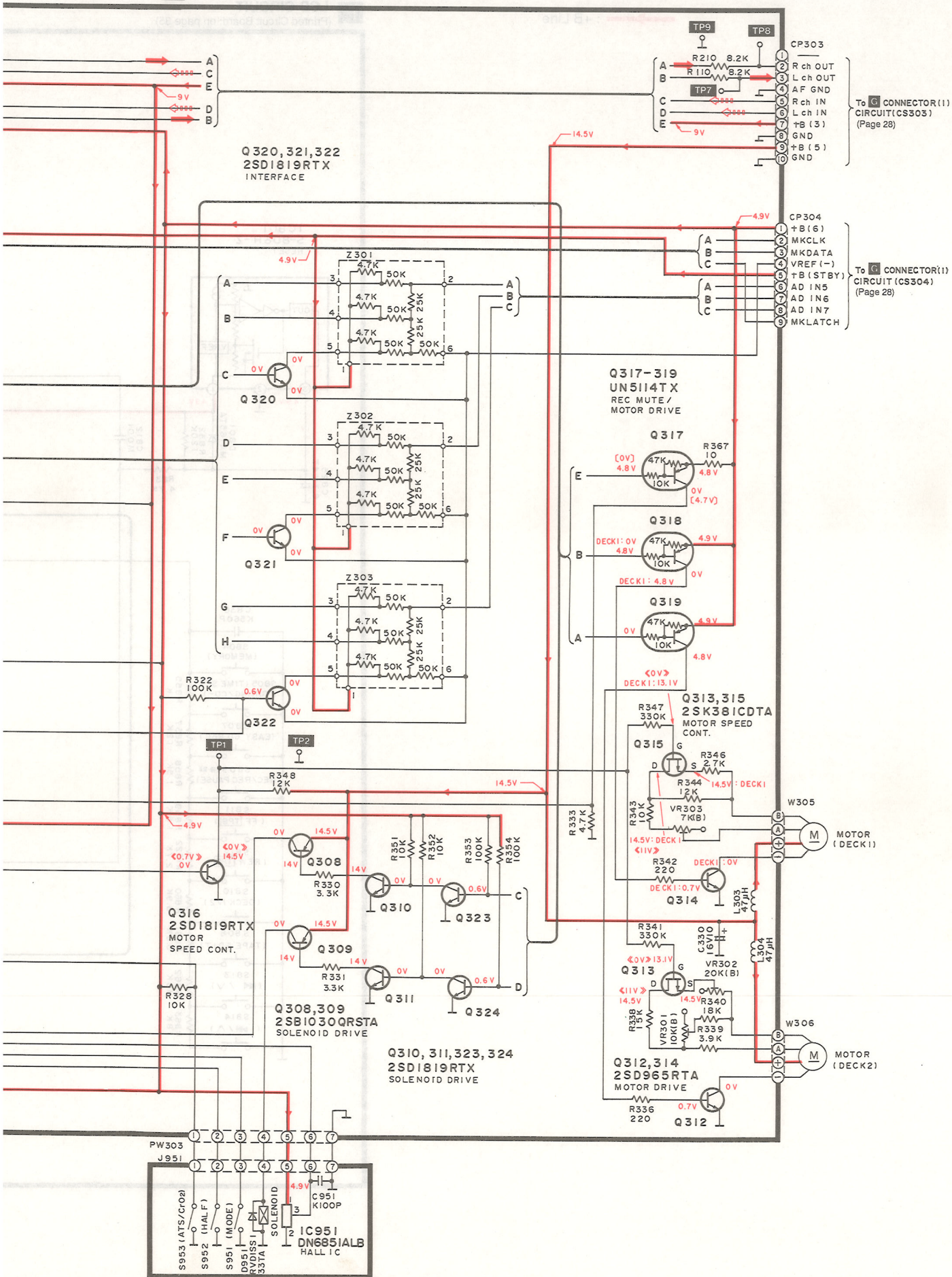
C301
105222

□□□▷ : Record Signal Line

→ : +B Line



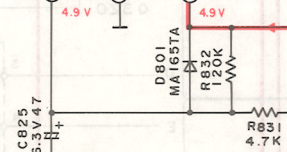
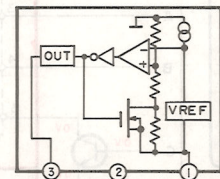
C MECHANISM CONTROL CIRCUIT



F LCD CIRCUIT (Printed Circuit Board: on page 35)

→ : +B Line

IC801
S-806H-Z
RESET



C836
K560P

S804
(MEMORY)

S805 (TIME SET
/TUNING/CD-)

S807
(EASY CD REC)

S809 (●) (■)
REC/REC PAUSE

S811
(FF [TPS])

S812
(REW [TPS])

S810
(DECK 1/2)

S808
(TAPE EDIT)

S813
(▶ / ◀)

S814
(▶ / ◀)

R855 1K

R857 1.2K

R858 1.5K

R859 1.8K

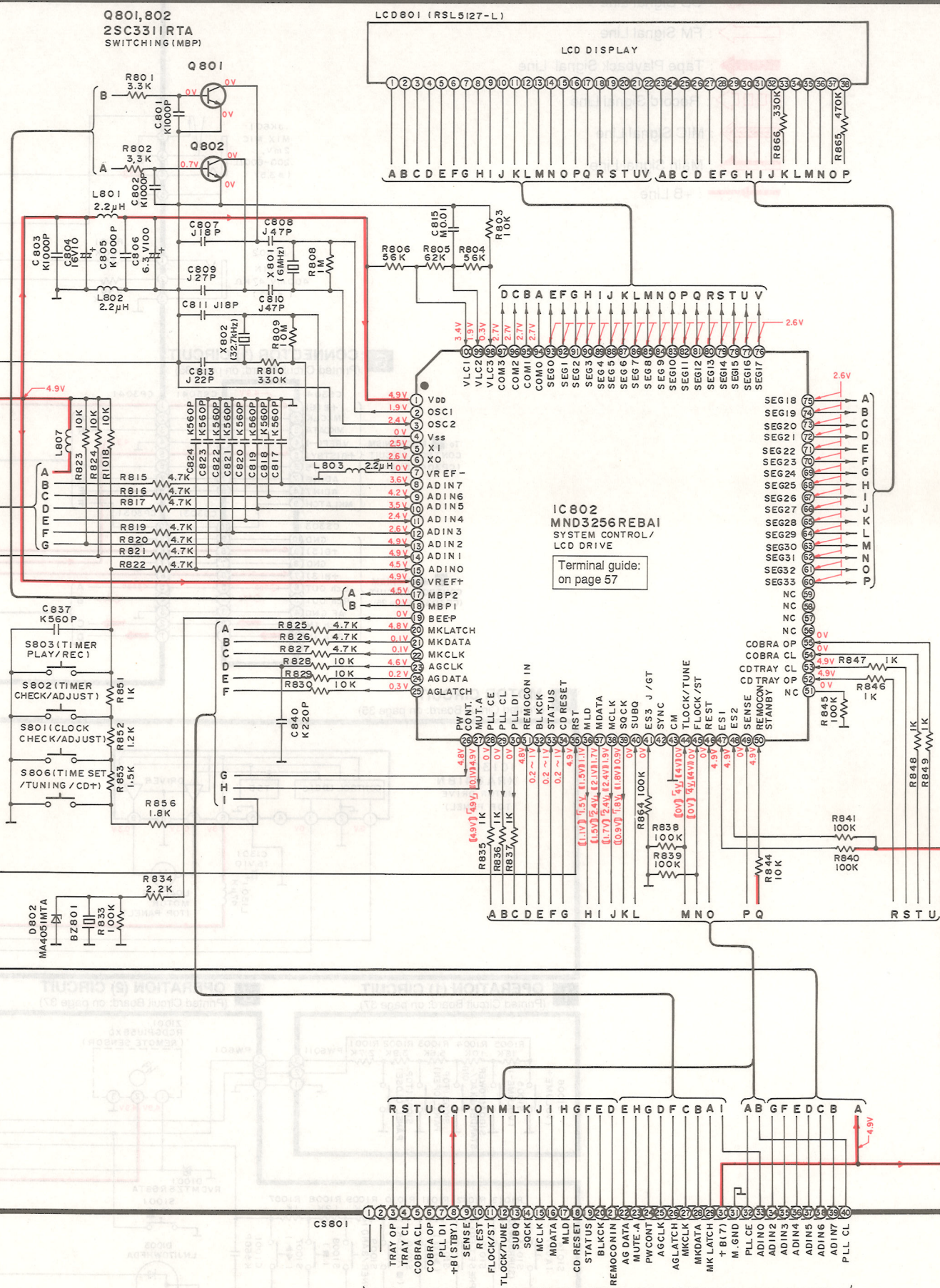
R860 2.7K

R861 3.9K

R862 5.6K

R863 10K

R864 18K

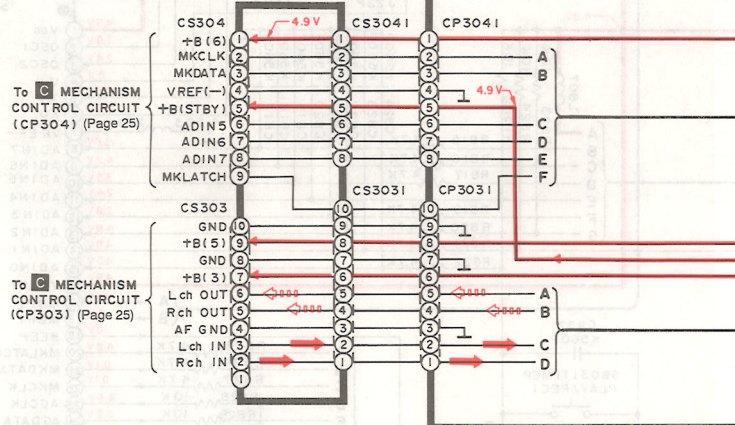


To  MAIN CIRCUIT (CS8011) (Page 30)

-  : CD Signal Line
 : FM Signal Line
 : Tape Playback Signal Line
 : Record Signal Line
 : MIC Signal Line
 : Main Signal Line
 : +B Line

G CONNECTOR (1) CIRCUIT

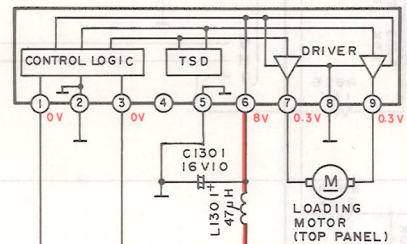
(Printed Circuit Board: on page 35)



H MOTOR CIRCUIT

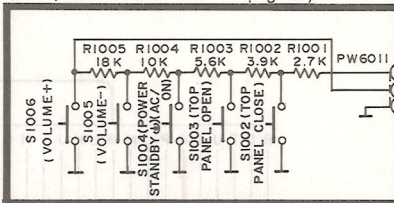
(Printed Circuit Board: on page 35)

IC1301
XRA6418N
MOTOR DRIVE
(TOP PANEL)



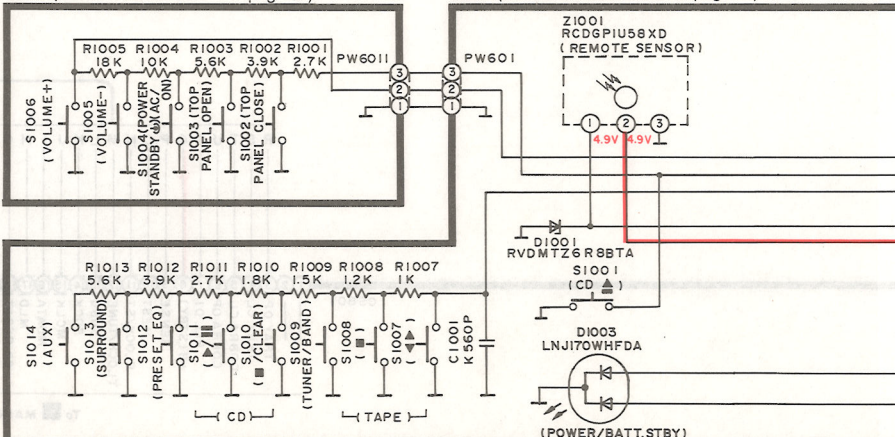
I OPERATION (1) CIRCUIT

(Printed Circuit Board: on page 37)



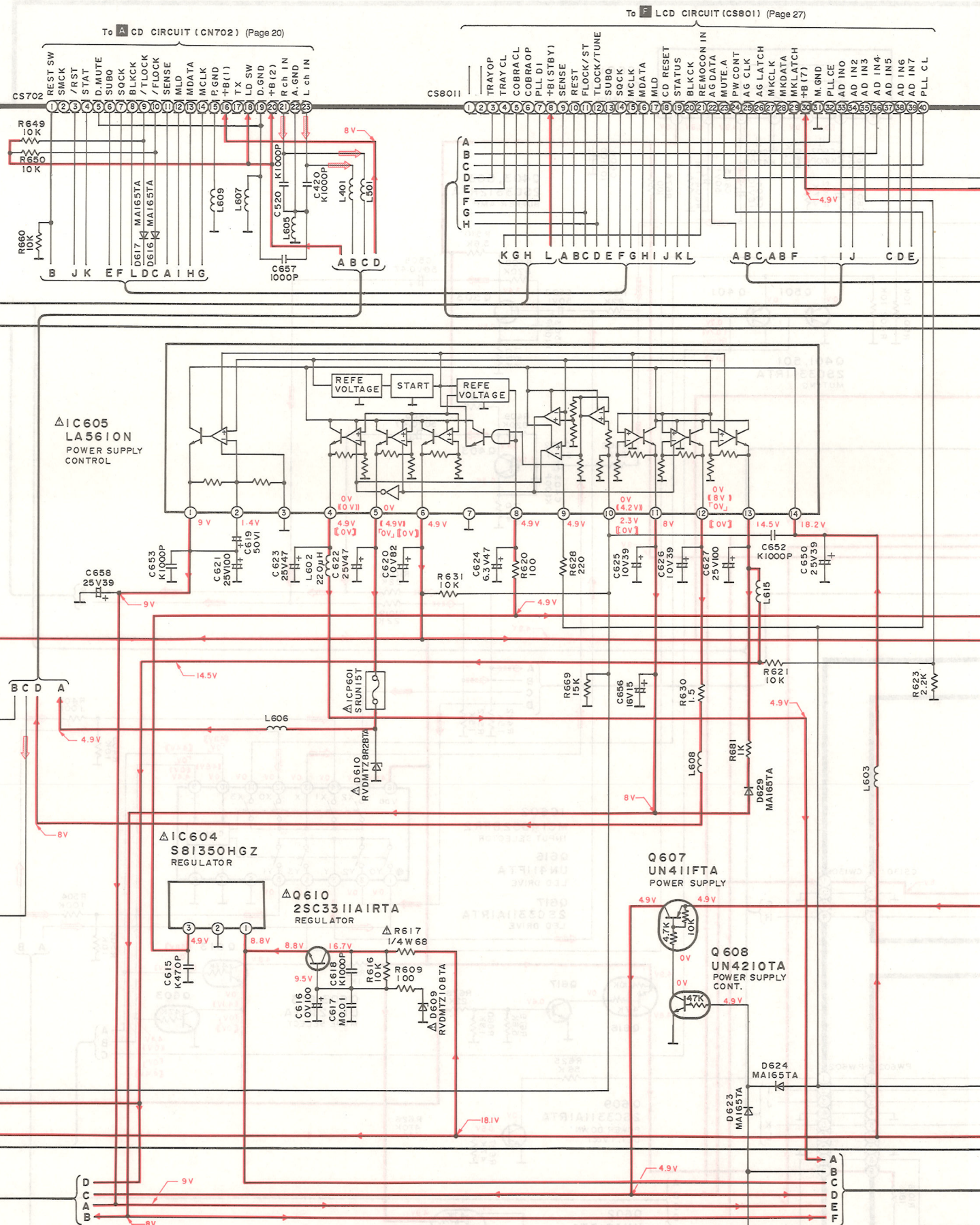
J OPERATION (2) CIRCUIT

(Printed Circuit Board: on page 37)

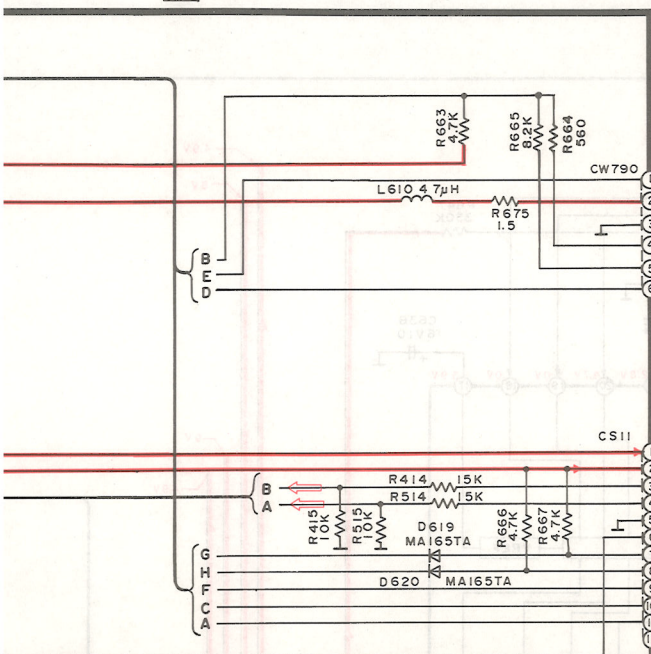
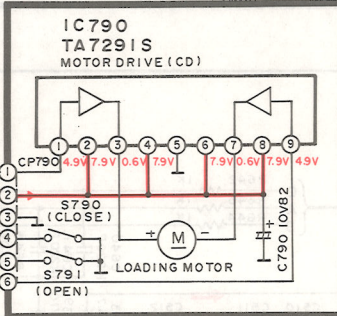




K MAIN CIRCUIT POWER SUPPLY /ASP/POWER AMP)





K MAIN CIRCUIT**L LOADING MOTOR CIRCUIT**
(Printed Circuit Board: on page 37)

- : CD Signal Line
- : FM Signal Line
- : Tape Playback Signal Line
- : Record Signal Line
- : MIC Signal Line
- : Main Signal Line
- : +B Line

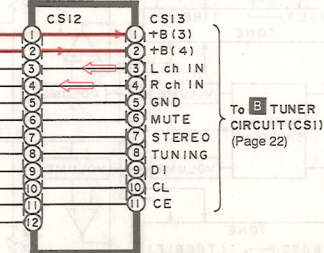
M CONNECTOR (2) CIRCUIT
(Printed Circuit Board: on page 37)To **TUNER**
CIRCUIT (CS1)
(Page 22)**N CONNECTOR (3) CIRCUIT**
(Printed Circuit Board: on page 35)

Diagram N shows the connector (3) circuit. It includes connections for A, B, and various signals (B, F, D, G, H, C, A). The circuit also includes a 180 resistor and a 180 resistor.

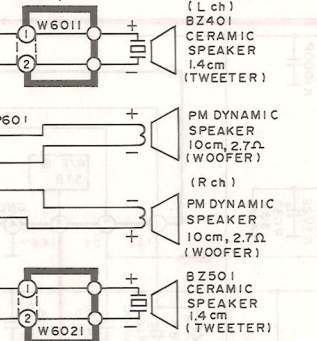
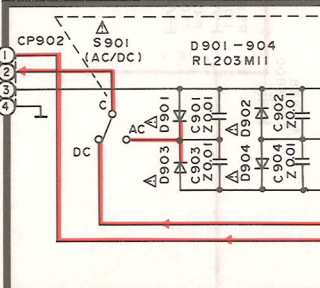
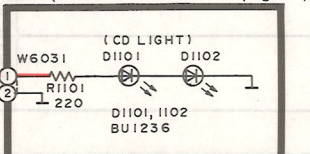
O TWEETER (L) CIRCUIT
(Printed Circuit Board: on page 37)**P TWEETER (R) CIRCUIT**
(Printed Circuit Board: on page 37)

Diagram P shows the tweeter (R) circuit. It includes connections for W601, W602, and various signals (B, F, D, G, H, C, A). The circuit also includes a 1.4cm ceramic speaker and a 1.4cm ceramic speaker.

Q POWER SUPPLY CIRCUIT
(Printed Circuit Board: on page 38)**R LED CIRCUIT**
(Printed Circuit Board: on page 35)

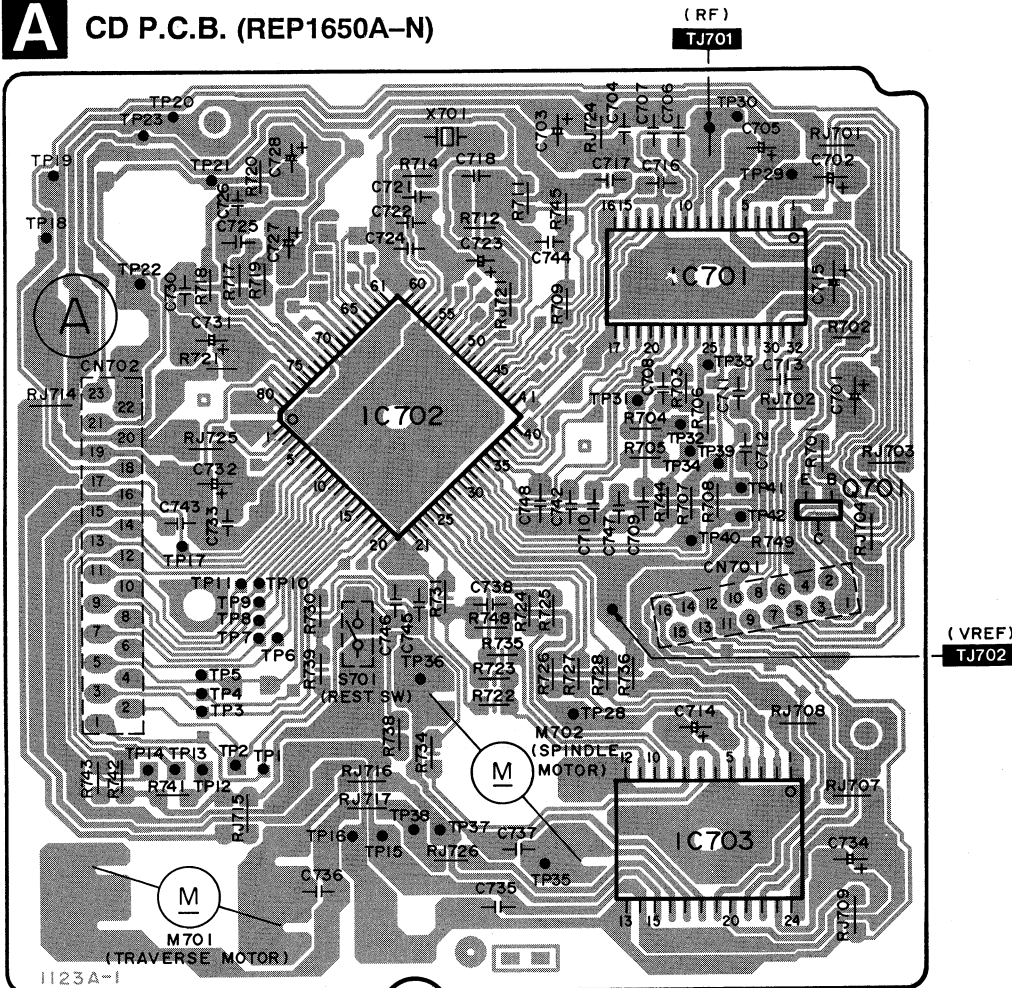
BACK-UP FOR
COMPUTER/CLOCK
4 R/LRS (UM-3)
BATTERIES: 6V

BATTERY 10 R20/LR20(UM-1)
BATTERIES: 1.5V

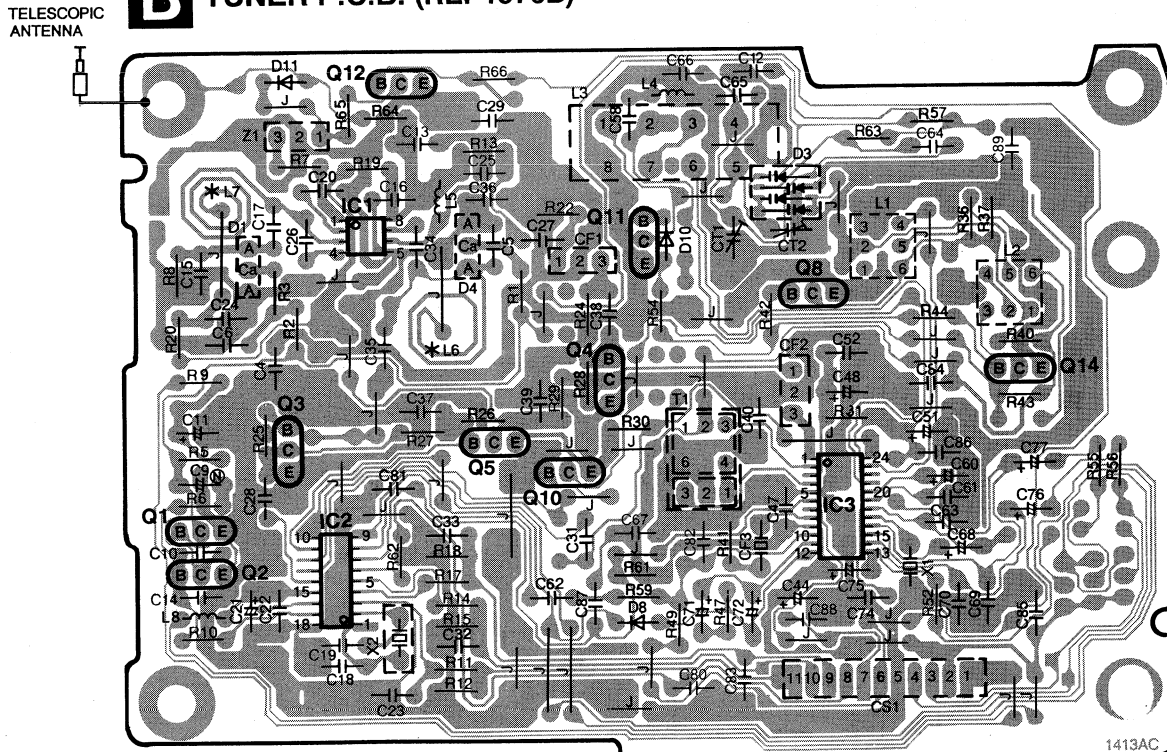
■ Printed Circuit Board Diagram

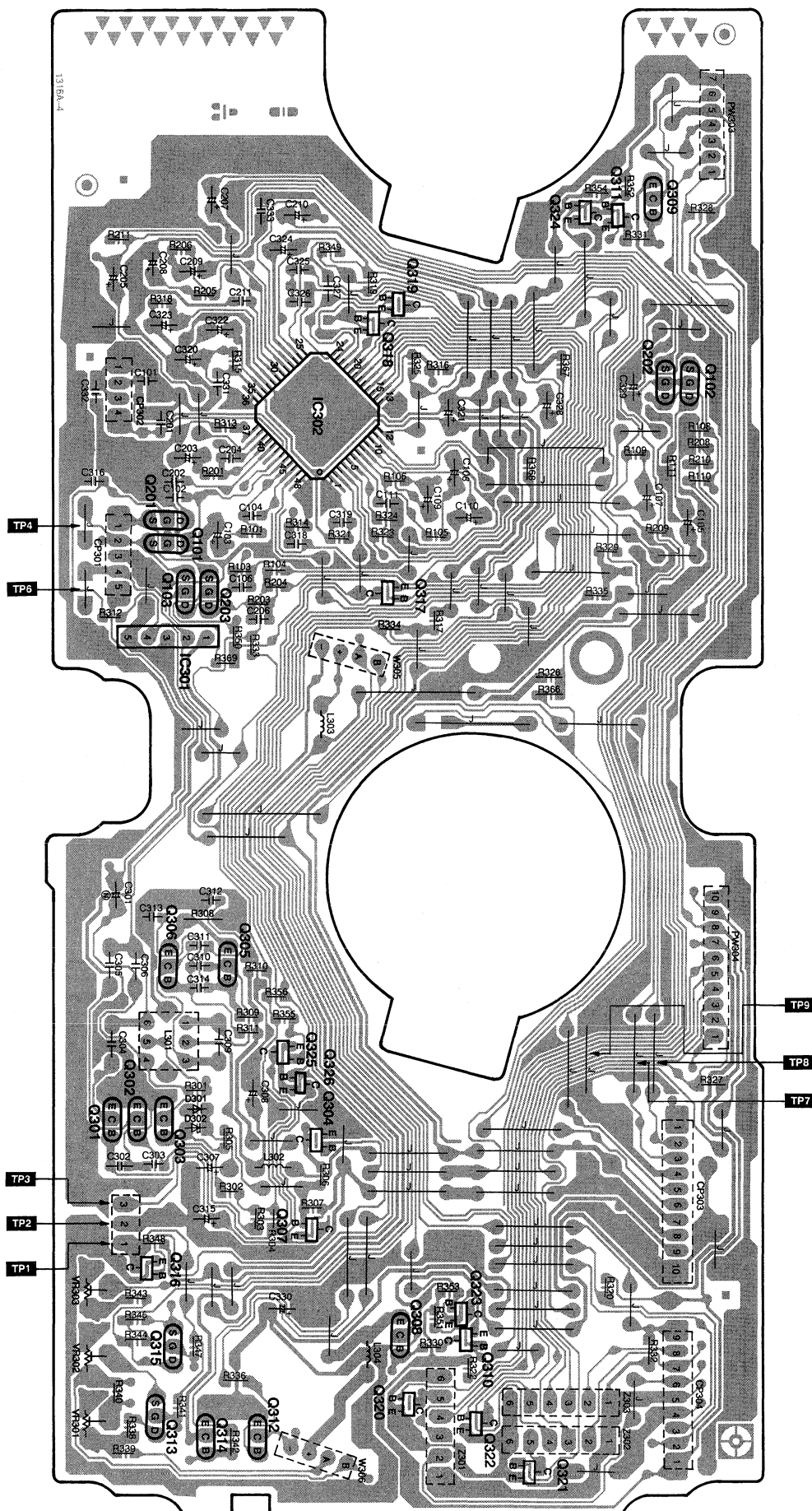
● This circuit board diagram may be modified at any time with the development of new technology.

A CD P.C.B. (REP1650A-N)

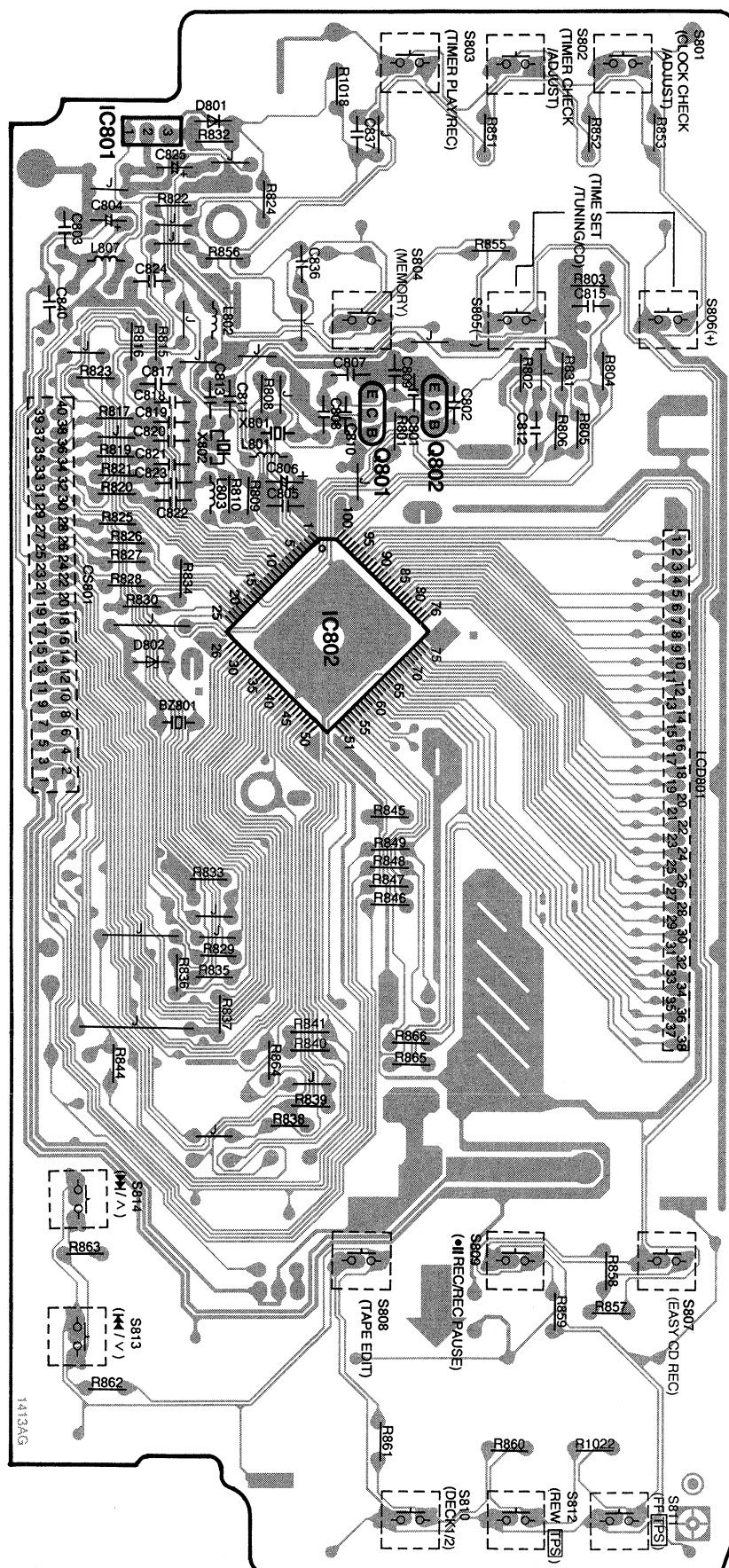


B TUNER P.C.B. (REP1976B)

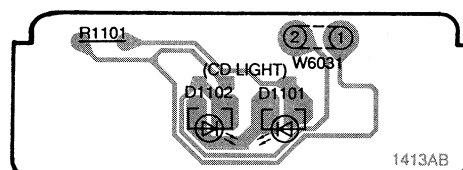




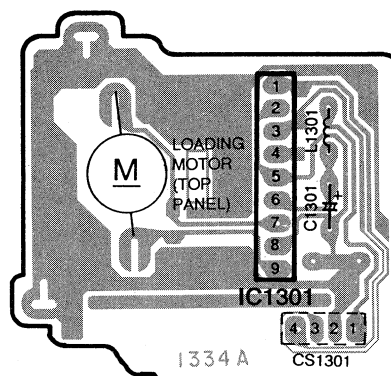
F LCD P.C.B. (REP1976B)



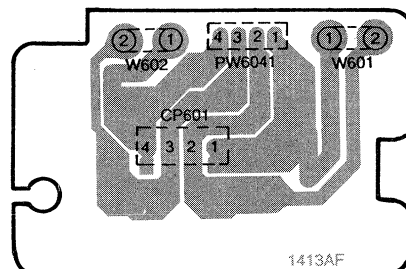
R LED P.C.B. (REP1976B)



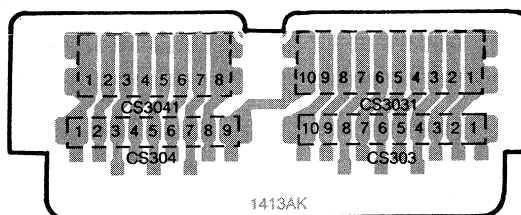
H MOTOR P.C.B. (REP1977A)

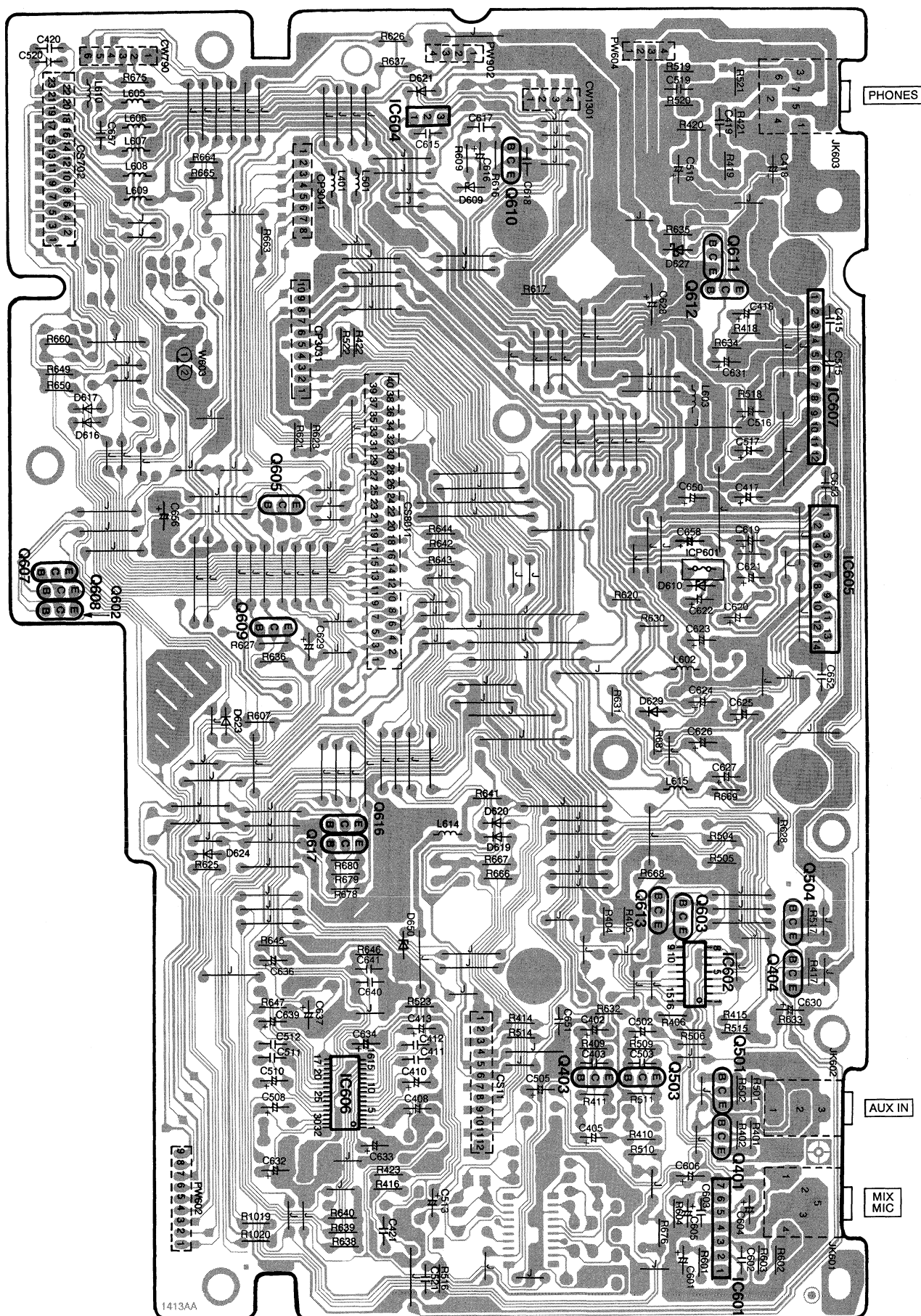


N CONNECTOR (3) P.C.B. (REP1976B)

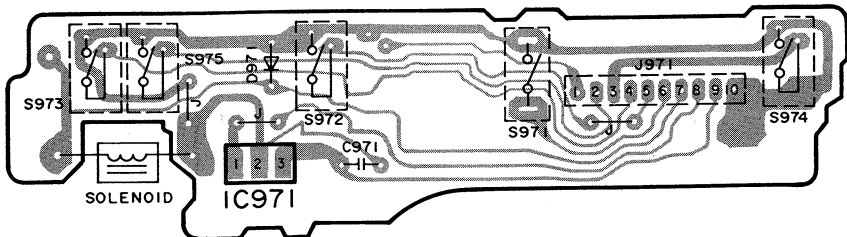
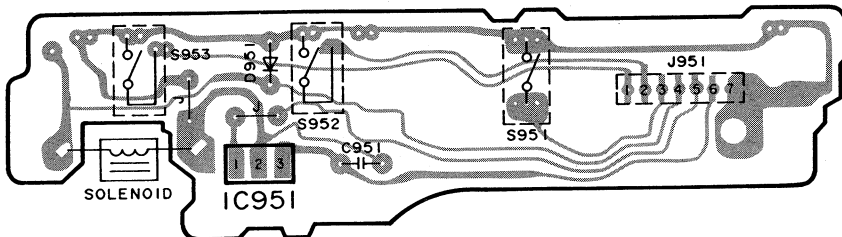


G CONNECTOR (1) P.C.B. (REP1976B)

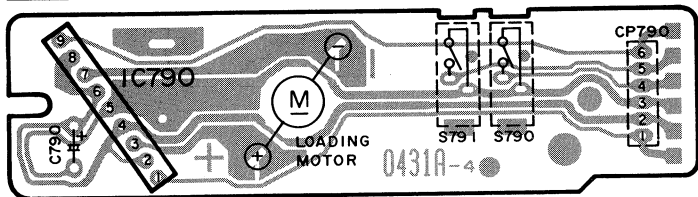




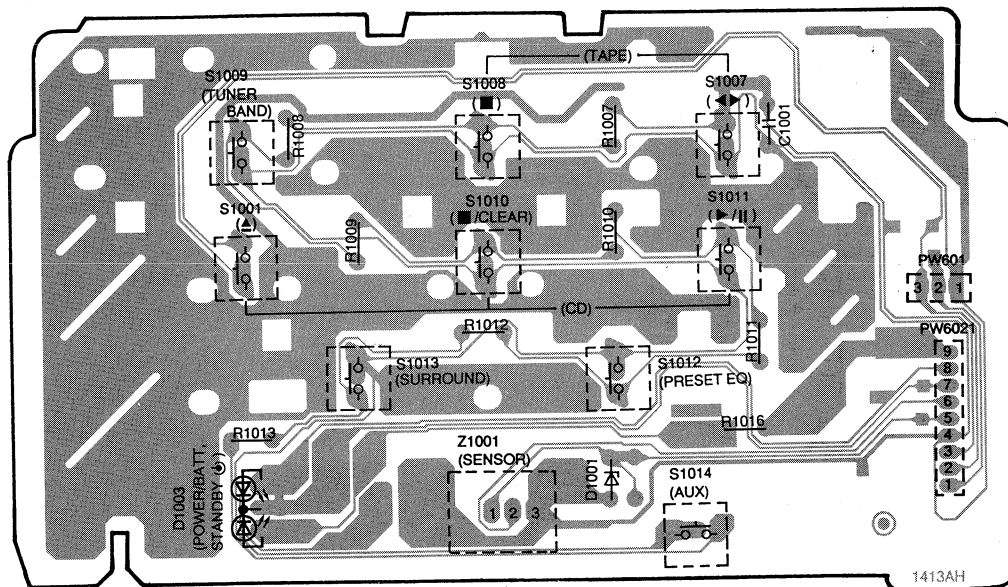
D MECHANISM (DECK2) P.C.B. (REP1978A)

**E MECHANISM (DECK1) P.C.B. (REP1150)**

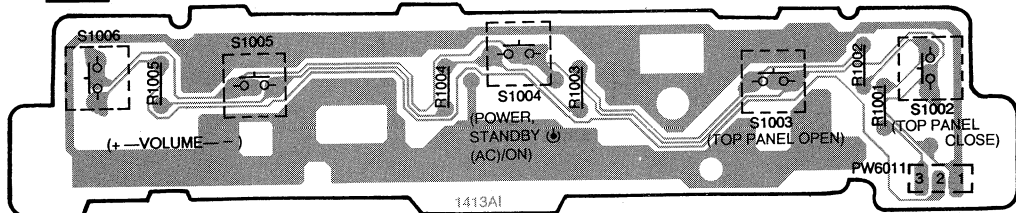
L LOADING MOTOR P.C.B. (REP0767)



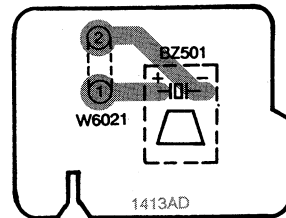
J OPERATION (2) P.C.B. (REP1976B)



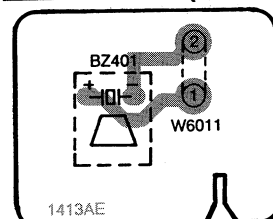
OPERATION (1) P.C.B. (REP1976B)



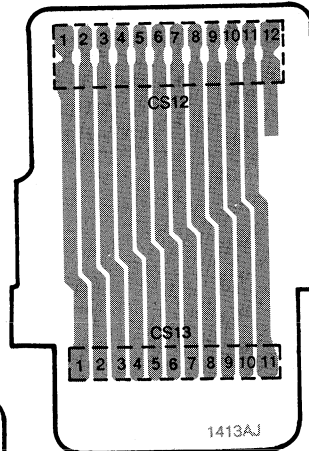
P TWEETER (R)
P.C.B. (REP1976B)



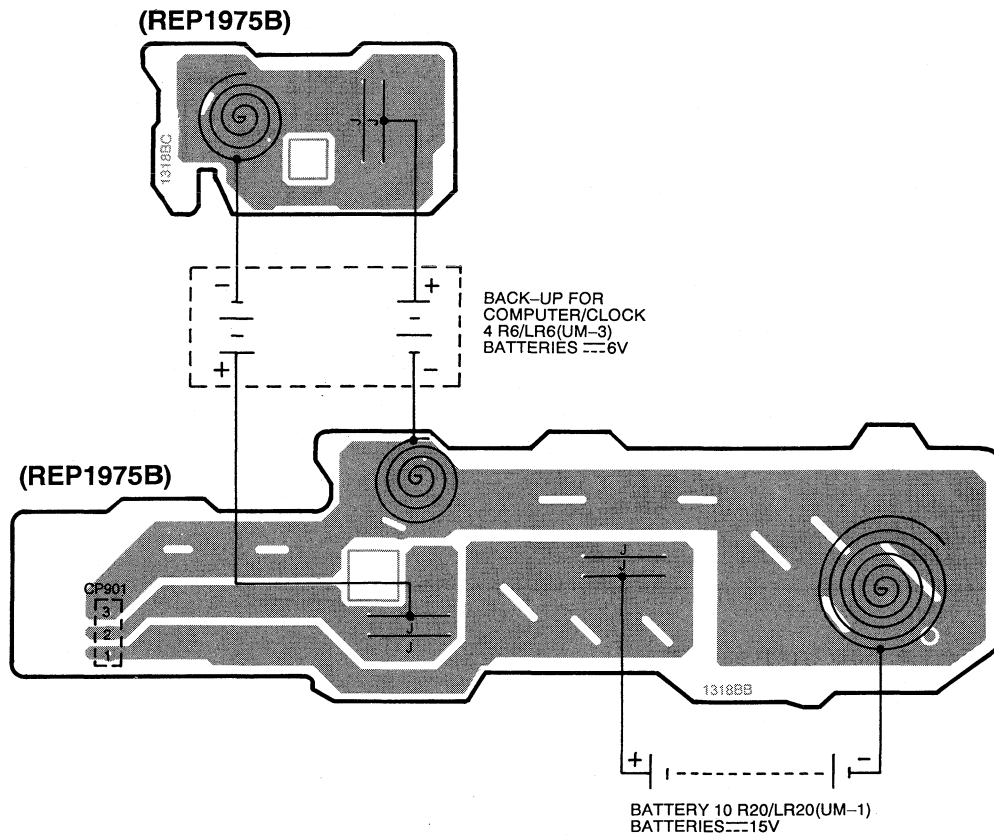
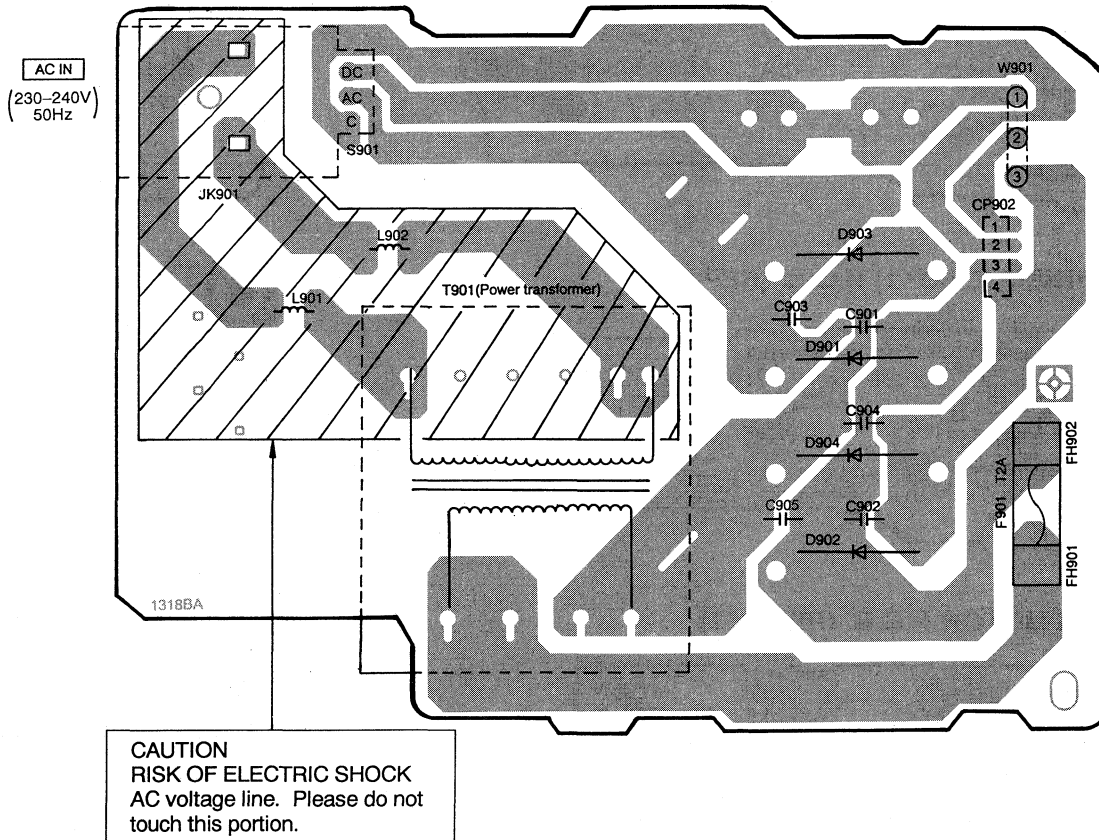
O TWEETER (L)
P.C.B. (REP1976B)

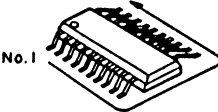


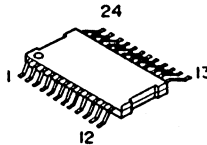
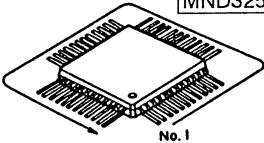
M CONNECTOR (2)
P.C.B. (REP1976B)



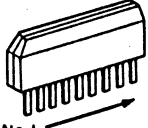
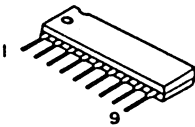
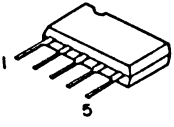
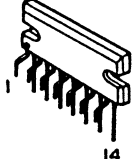
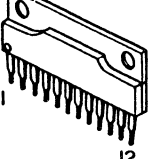
Q POWER SUPPLY P.C.B. (REP1975B)

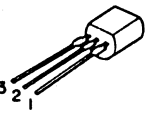
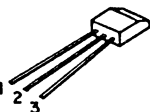


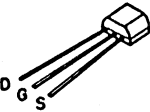
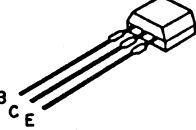
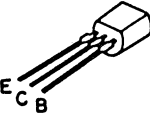
 No.1	TA7358FMATEL	8Pin
	MC14052BFR2	16Pin
	XLU2616F-E1	18Pin
	LA1832MS-TEL	24Pin
	AN8802SCE1V	32Pin
	BH3854FSE1	32Pin

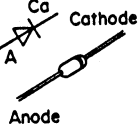
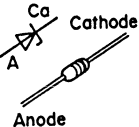
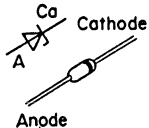
 24 12 13		 No.1
AN8389SE1		

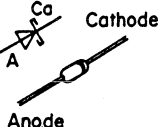
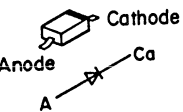
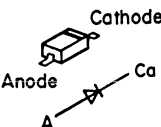
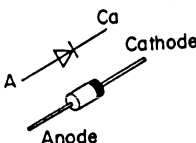
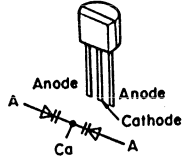
TA2011S	7Pin
TA7291S	9Pin

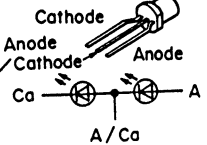
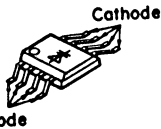
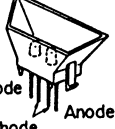
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	 14	XRA6418N	 12		

S-806H-Z S81350HGZ	DN6851ALB	 E C B	2SB1030QRSTA 2SC2786LTA 2SC3311AIRTA 2SC3311R 2SC3312RTA 2SC3313B 2SD1450RTA	UN411FTA UN4111 UN421FTA UN4210-S UN4213
 3 2 1	 1 2 3			

2SC2389SSTA	2SD965Q	 D G S	2SK381BCDTA 2SJ40CTA 2SJ40DTA 2SJ40CDTA	UN5114TX UN5210TX 2SB709S 2SD1819RTX
 B C E	 E C B			 B C E

 Ca Cathode A Anode	MA165 RVD1SS133TA RVD1SS135TA	 Ca Cathode A Anode	 Ca Cathode A Anode	RVDMTZ6R8BTA RVDMTZ8R2BTA RVDMTZ10BTA

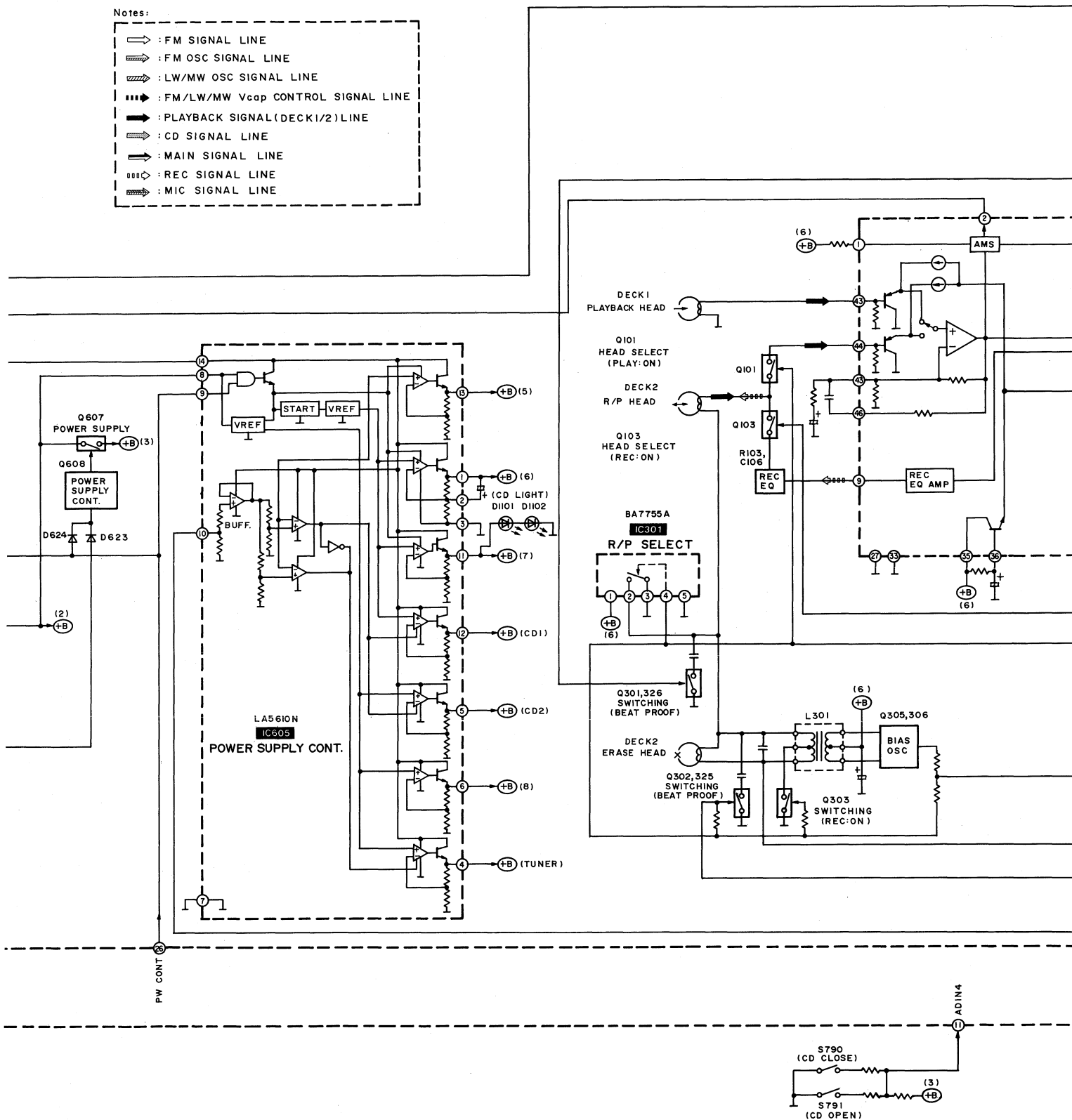
RB441QT77	MA110TX	MA8047MTX	RL203M11	KV1360NT
 Ca Cathode A Anode	 Cathode Anode A	 Cathode Anode A	 Ca Cathode A Anode	 Anode Anode A Cathode Ca A

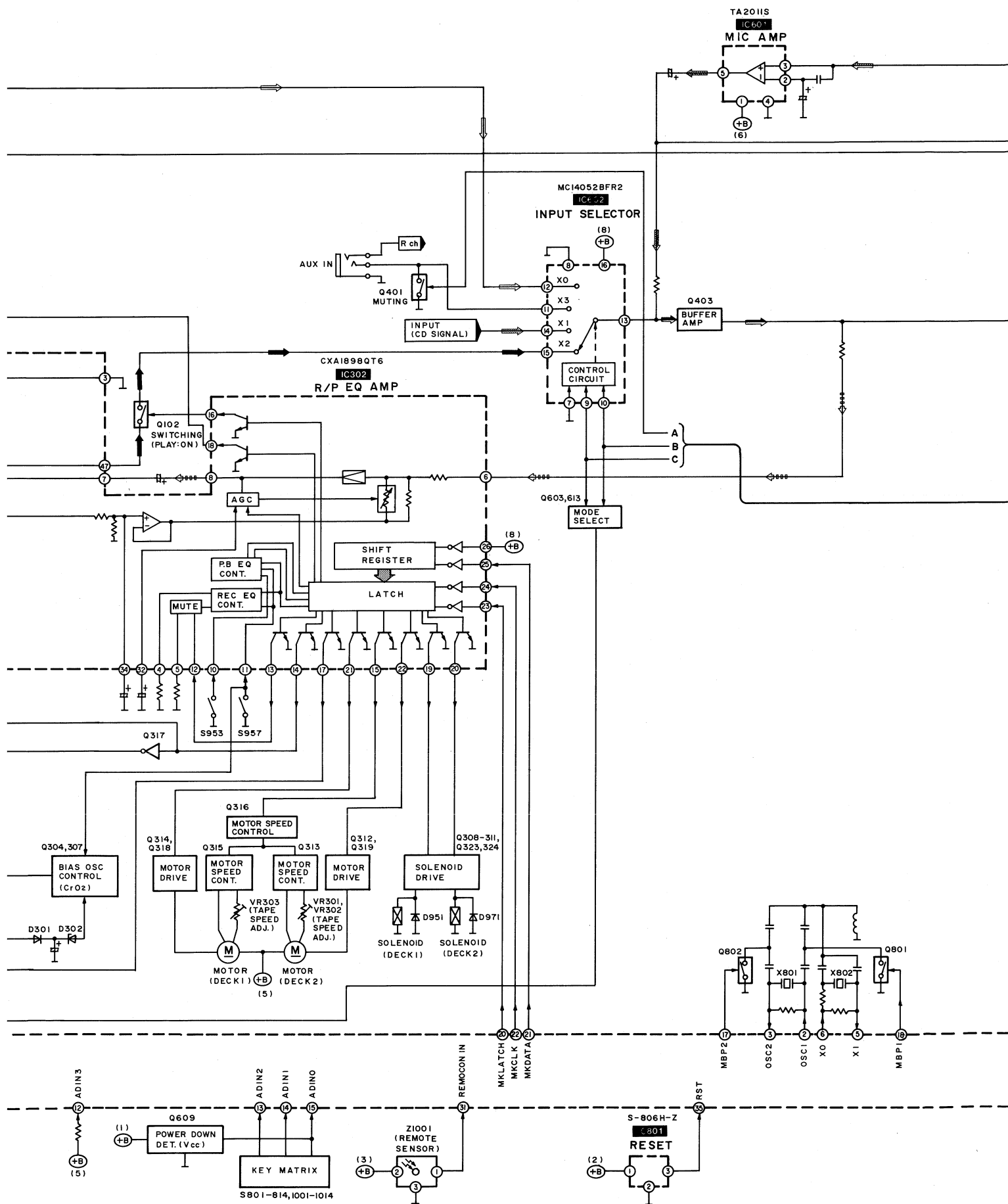
LNJ170WHFDA	KV1583BMTL	BU1236	
 Cathode Anode Cathode Ca A / Ca	 Cathode Anode	 Anode Cathode	

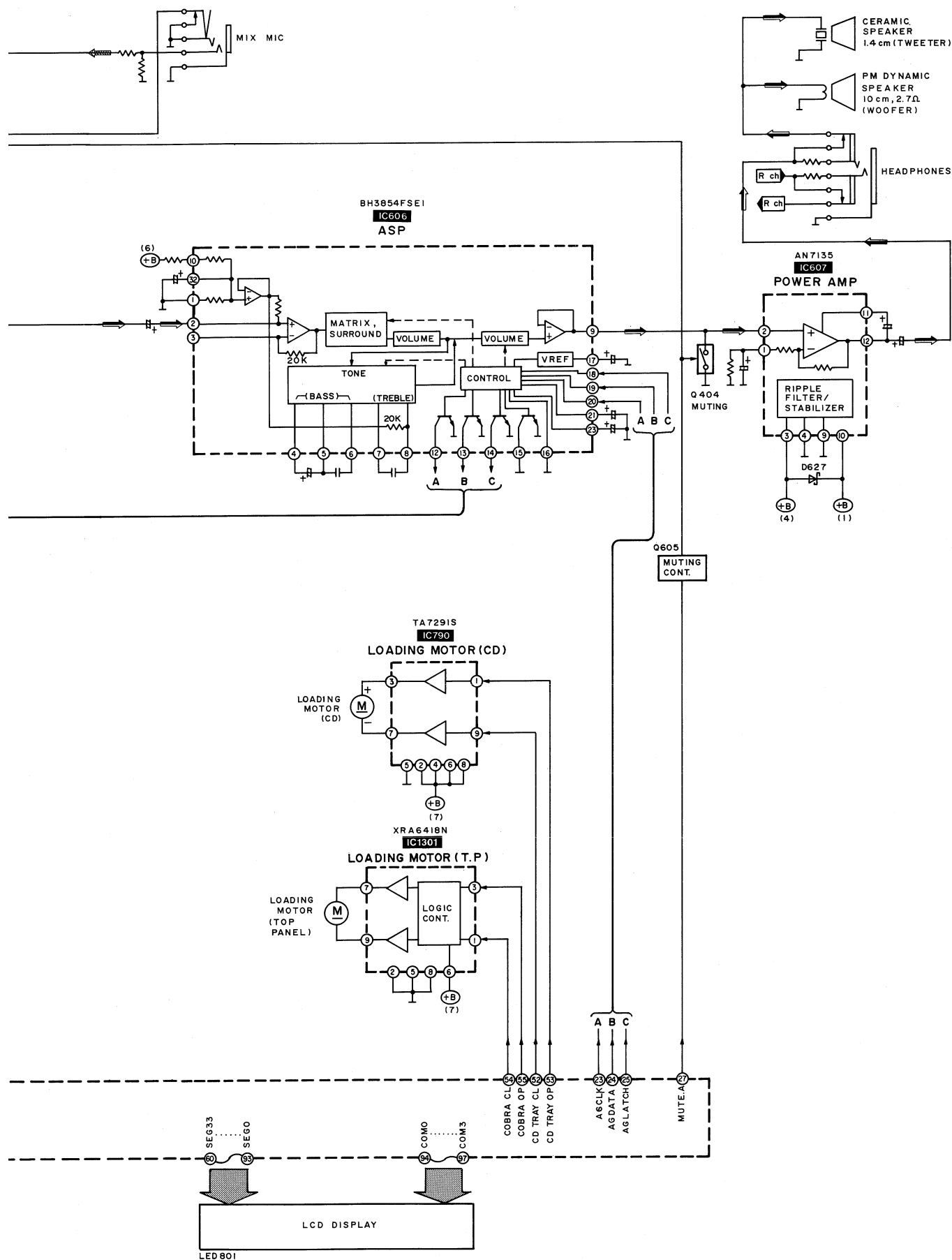


Notes:

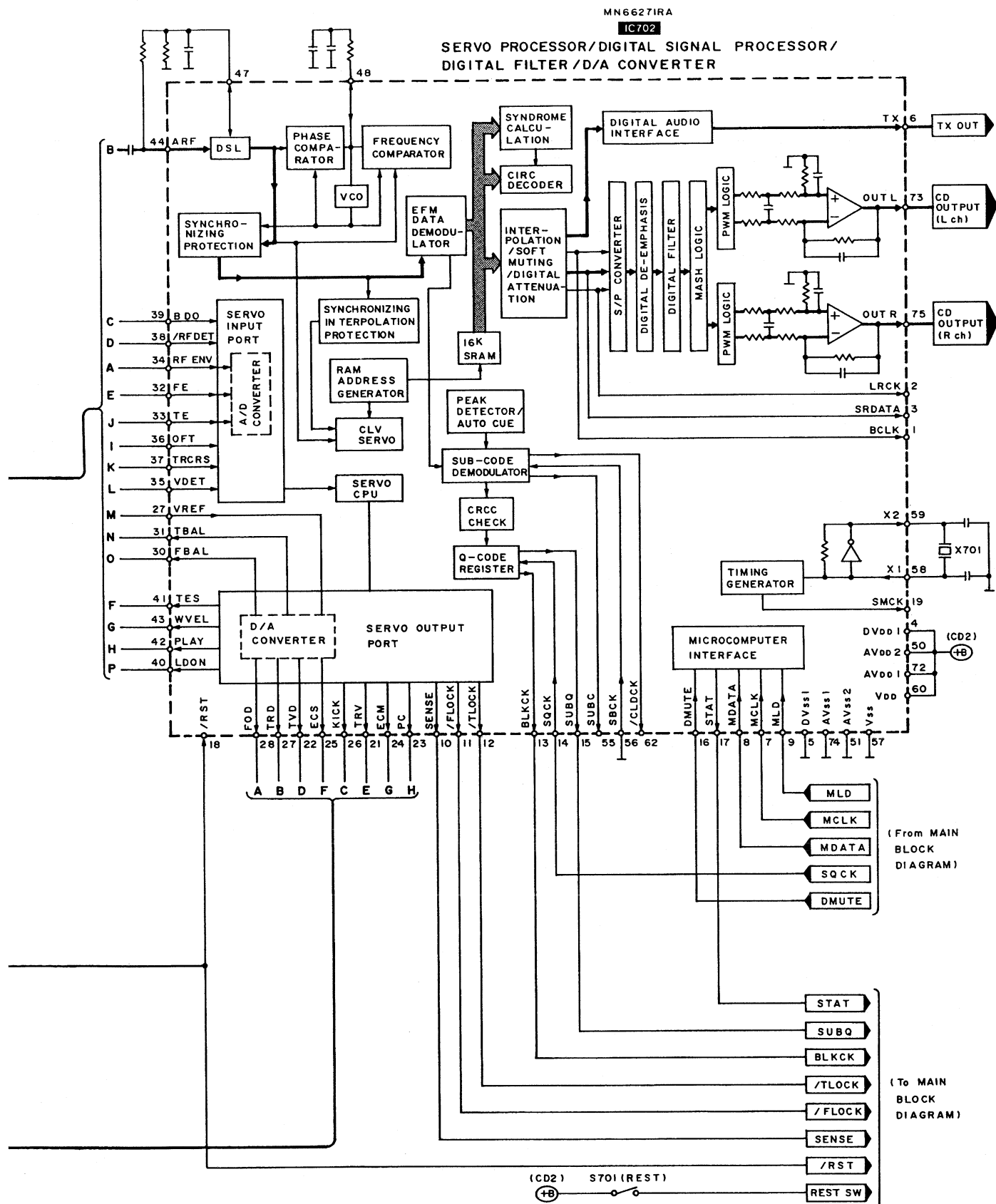
- : FM SIGNAL LINE
- : FM OSC SIGNAL LINE
- : LW/MW OSC SIGNAL LINE
- : FM/LW/MW Vcap CONTROL SIGNAL LINE
- : PLAYBACK SIGNAL (DECK1/2) LINE
- : CD SIGNAL LINE
- : MAIN SIGNAL LINE
- : REC SIGNAL LINE
- : MIC SIGNAL LINE



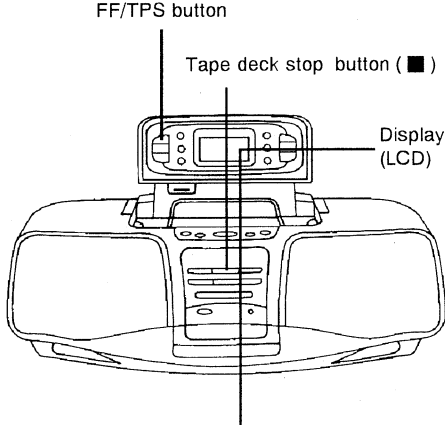
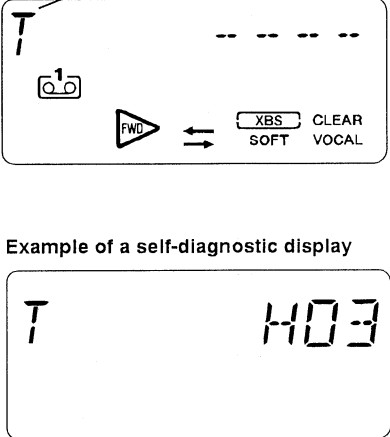








Self-Diagnostic Display Function

Display procedure	Display location
To view the display ● To change from normal display mode to self-diagnostic mode: 1. Connect the unit to the power supply and switch on the power. 2. Set the reverse mode to "↔". Use the remote control; reverse mode cannot be set from the unit controls. 3. Confirm that there is no tape cassette in either tape deck 1 or tape deck 2. 4. Press and hold the tape deck stop button, and then also press and hold the FF/TPS button for about 2 seconds (without releasing the tape deck stop button). A beeping sound is heard and "T" is displayed (indicating the unit has changed from normal display mode to self-diagnostic mode.) ● To view the self-diagnostic display for tape decks 1 and 2: 1. Load a tape cassette with both erasure-prevention tabs removed into tape deck 1. 2. Press the FF/TPS button and fast-forward the tape for about 5 seconds, then press the tape stop button (□). 3. Remove the tape cassette and load a music cassette (with at least 4 seconds of music recorded on it and both erasure-prevention tabs intact). 4. Press the play button (◀▶). When play begins, press either the FF/TPS button or the REW/TPS button to use the TPS (tape program search) function in the direction in which the music is recorded. 5. When TPS functions (the beginning of the music is found and the unit changes to the play mode), press the tape deck stop button (□) to stop the tape. 6. Repeat steps 1 to 5 above for tape deck 2. 7. When the tape deck stop button (□) is pressed, if there is a fault, the LCD shows the self-diagnostic display. (If there is no fault, the LCD shows the tape counter.) If there is more than one fault, the display changes each time the tape deck stop button (□) is pressed. To change between the self-diagnostic display for tape deck 1 and tape deck 2, press the tape deck select button (DECK 1/2). ● To view the self-diagnostic display for the CD player: 1. Press the CD stop button (□/CLEAR) to select CD operation. 2. Press the CD tray open/close button (△) to open the CD tray. 3. After the CD tray is fully open for about 5 seconds, press the CD tray open/close button (△) to close the tray. 4. Press the tape deck stop button (□). If there is fault, the LCD shows the self-diagnostic display. (If there is no fault, the LCD shows the tape counter.) Note: When procedures for tape decks 1 and 2 and the CD player are performed, if there is a fault, the LCD alternates between the self-diagnostic display for tape decks 1 and 2 and the CD player each time the tape deck stop button (□) is pressed. (If there is no fault, the LCD shows the tape counter.) To return to the normal display mode ● Press the power switch (POWER) once to switch off the power, then press it again to switch the power back on. To view the self-diagnostic display once again, perform steps 1 to 4 from "To change from normal display mode to self-diagnostic mode" above, and then press the tape deck stop button (□). Note: The contents of the self-diagnostic display are stored in memory. To clear the memory after the fault has been corrected, remove the batteries (including the clock/memory battery), disconnect the AC power supply, and then press and hold the power switch (POWER) for at least 5 seconds.	 This display indicates the unit is in self-diagnostic mode.  Example of a self-diagnostic display

Display contents

(Note: Items marked with (*) mark are displayed automatically and do not require the procedure described under "To change from normal display mode to self-diagnostic mode".)

Display code	Symptom or condition	Cause and method of correction
* U1	When operating on batteries, the power switches off immediately after being switched on.	The batteries are depleted; replace with new batteries.
* U02	Power cannot be switched on.	Check the power cord (AC) or insert batteries (DC).
* H01	The cassette deck does not operate correctly. Example: The tape deck operates in reverse-play mode when the forward-play button is pressed.	Faulty cassette deck mechanism mode switch and plunger. (Check and replace.)
H02	No sound output; or the unit goes into recording mode even when the erasure-prevention tabs are removed from the cassette.	Faulty erasure-prevention tab detection switch or a short-circuit. (Check and replace.)
H03	The tape does not play when the tape deck play button is pressed. The motor operates when the tape deck play button is pressed; even when no cassette is loaded in the deck.	Faulty cassette detection switch or a short-circuit. (Check and replace.)
H15	The CD tray closes immediately after it is opened.	Faulty contact on the CD tray open detection switch. (Check and replace.)
H16	The CD tray opens immediately after it is closed.	Faulty contact on the CD close detection switch. (Check and replace.)
F01	When the tape play button is pressed, the tape advances slightly and then stops.	Faulty reel pulse (Hall) IC. (Check and replace.)
F02	The TPS function won't operate.	Faulty signal detection or faulty plunger control. (Check and replace the mechanism control IC.)
F15	When the CD play button is pressed from either the power off state or from some function other than CD, excessive time (more than 5 seconds) is required to begin CD play.	Faulty traverse inner circumference position detection switch. (Check and replace.)
F75	When a CD is loaded, "NO DISC" is displayed and the CD cannot be played.	Faulty CD circuit power supply (power supply IC or CD circuit power supply system). (Check and replace.) Flexible circuit board disconnected or broken wiring. (Check and replace.) Faulty servo processor IC. (Check and replace.)

■ Measurements and Adjustments

< TUNER SECTION >

● ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

- Set power source voltage to 15 V DC.
- Set power switch to ON.
- Set function switch to TUNER / MW, LW or FM.
- Set volume level to 40.
- Output of signal generator should be no higher than necessary to obtain an output reading.

● MW-RF ALIGNMENT

(The parts other than the ones listed below are aligned at the factory before they are supplied. Therefore, alignment of those parts is unnecessary when used for replacement.)

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Refer to Fig. 2)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	594 kHz	Tune to signal	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig.1 and then connect the lead wires of the plug to the measuring instrument.)	(*1) L3-1 (MW ANT Coil)	Adjust for maximum output. Adjust L2-1 by moving coil along the ferrite core.
"	1503 kHz	"	"	CT1 (MW ANT Trimmer)	Adjust for maximum output.

(*1) Fix antenna coil with wax after completing alignment.

● LW-RF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Refer to Fig. 2)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	153 kHz	Tune to signal	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig.1 and then connect the lead wires of the plug to the measuring instrument.)	(*2) L3-2 (LW ANT Coil)	Adjust for maximum output. Adjust L2-2 by moving coil along the ferrite core.
"	270 kHz	"	"	CT2 (LW ANT Trimmer)	Adjust for maximum output.

(*2) Fix antenna coil with wax after completing alignment.

< CASSETTE DECK SECTION >

● ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

- Set power source voltage to 15 V DC.
- Set power switch to ON.
- Set function switch to TAPE.
- Set volume control to 40.

● HEAD AZIMUTH ALIGNMENT

TEST TAPE	INDICATOR ELECTRONIC VOLTMETER or OSCILLOSCOPE	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8 kHz, - 20 dB)	Headphones Jack (32Ω) (Fabricate the plug shown in Fig.1 and then connect the lead wires of the plug to the measuring instrument.)	Azimuth Screw (Shown in Fig. 3, 4.)	Maximum output	1. Insert the test tape (QZZCFM) and start playback in the forward direction. 2. Adjust the azimuth screw for maximum waveform on the oscilloscope and the similar output on L and R channels. 3. When adjusting the azimuth in the reverse direction, repeat the adjustment a several times because of a little slip on the forward direction side.

Caution:

- Please replace both azimuth adjustment screws (RHE5152ZB) and springs (RMB0331) used for the forward and reverse sides to new ones simultaneously when readjusting the head azimuth. (Shown in Fig. 3, 4.)
Even if you wish to readjust the head azimuth without replacing the screws and springs, a fine adjustment can not be done because of the screw-locking bond adhered to the azimuth screw and spring.
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- If you wish to readjust the head azimuth, be sure to adjust with adhering the cassette tape closely to the mechanism by pushing the center of cassette tape with your finger. (Shown in Fig. 5.)
- After the adjustment, apply screwlock to the azimuth adjusting screw. (Screw-locking bond: RZZ0L01)

• TAPE SPEED ALIGNMENT

TEST TAPE	INDICATOR (FREQUENCY COUNTER)	ADJUSTMENT	REMARKS
QZZCWAT (3 kHz, -10 dB)	Headphones Jack (32Ω) (Fabricate the plug shown in Fig.1 and then connect the lead wires of the plug to the measuring instrument.)	DECK2 HIGH SPEED VR301 DECK1 NORMAL SPEED VR303 DECK2 NORMAL SPEED VR302 (Shown in Fig. 6.)	NORMAL SPEED ADJUSTMENT (DECK1) (Specification : 3000 ± 40 Hz) 1. Insert a test tape (QZZCWAT) in DECK1 and start playback in forward direction. 2. Adjust VR303 until the frequency is set to 3000 ± 20 Hz on the frequency counter. 3. Check that the frequency is set to within ± 40 Hz for playback in forward direction after playback in reverse direction. HIGH SPEED ADJUSTMENT (DECK2) (Specification : $F \pm 40$ Hz) 4. Short the test point TP1 and TP2 to set the high speed mode. 5. Insert a test tape (QZZCWAT) in DECK1 and start playback in forward direction. • This frequency is defined as F. 6. Insert a test tape (QZZCWAT) in DECK2 and start playback in forward direction. 7. Adjust VR301 until the frequency is set to $F \pm 40$ Hz. 8. Open the test point TP1 and TP2 to set the normal speed mode. NORMAL SPEED ADJUSTMENT (DECK2) 9. Insert a test tape (QZZCWAT) in DECK2 and start playback in forward direction. 10. Adjust VR302 until the frequency is set to 3000 ± 20 Hz on the frequency counter. 11. Check that the frequency is set to within ± 40 Hz for playback in forward direction after playback in reverse direction.

• RECORD BIAS CHECK

TEST TAPE	INDICATOR ELECTRONIC VOLTMEETER or OSCILLOSCOPE	ADJUSTMENT	SPECIFICATION	REMARKS
Use CrO ₂ tape and Normal tape	TP6 (+) TP4 (-) (Shown in Fig. 6, 7.)	—	CrO ₂ 0.5~24.5 mV Normal 13.5~16.5 mV	• Record mode

• ALIGNMENT POINTS

- Please refer to Printed Circuit Board Diagram for test point locations.

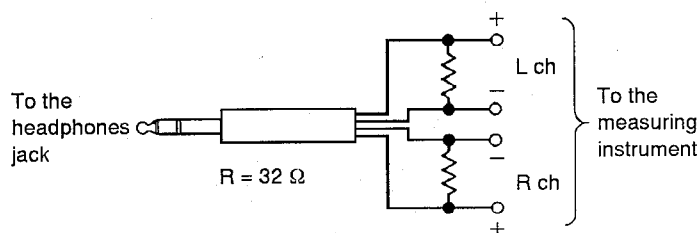


Fig. 1

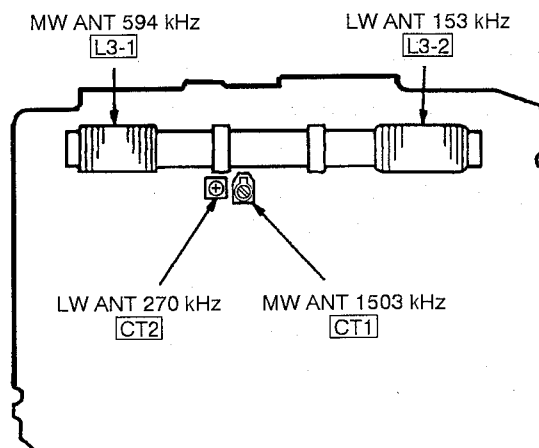


Fig. 2

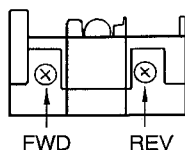


Fig. 3

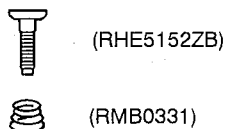


Fig. 4

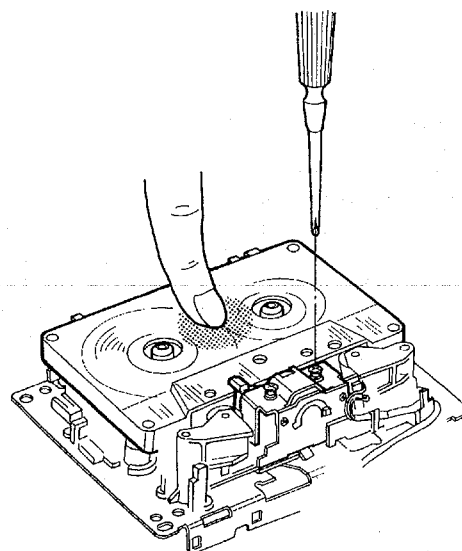


Fig. 5

MECHANISM CONTROL P.C.B

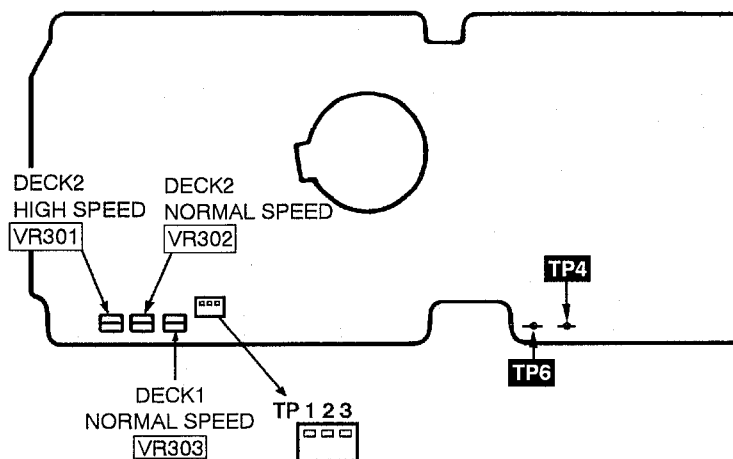
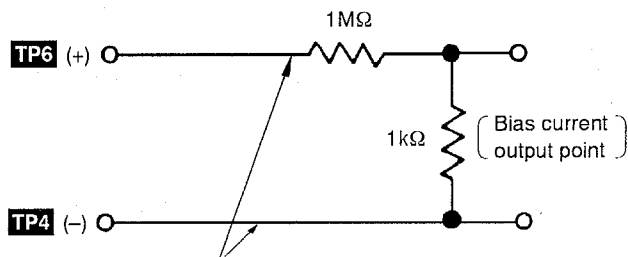


Fig. 6



Keep these cords short. (Line capacitance: 3 pF of less)

- In order not to influence the bias oscillation, divide the voltage with 1 MΩ and 1 kΩ resistors, and measure the voltage across the 1 kΩ resistor.

Fig. 7

< CD SECTION >

Caution:

It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
With the unit turned "on", laser radiation is emitted from the pickup lens.
Avoid exposure to the laser beam, especially when performing adjustments.

• Preparation for Adjustment

1. Set up the unit following the procedure described in "Checking for the main P.C.B. and CD P.C.B.". (See page 9)
2. After completing the setup procedure, switch the unit off then switch it on again (to adjust the unit with the CD unit placed in an upright position).

Measuring Instruments and Special Tools

- Test disc

1. Playability test disc (SZZP1054C)
2. Uneven test disc (SZZP1056C)

- Hexagonal wrench (M2.0) (SZZP1101C)
- Oscilloscope

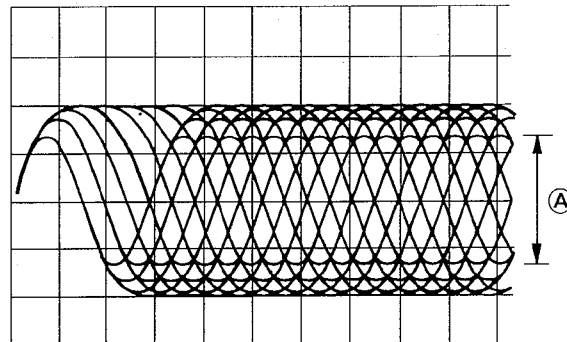
(1) MECHANICAL ADJUSTMENT

- When the traverse deck is replaced, making adjustments is not necessary. (The traverse deck ass'y is already adjusted.)
 - Make adjustments to improve playability when the traverse deck has not been replaced. Make the electrical adjustments first.
1. Connect the oscilloscope's CH. 1 probe across **TJ701** (+) and **TJ702** (VREF) on the CD P.C.B.

Oscilloscope setting:

VOLT 200 mV
 SWEEP 0.5 μ sec
 Input coupling AC

2. Switch the player power ON, and play track 19 on the test disc (SZZP1056C).
3. Leave the player in Play mode and place it as shown in the figure on the right.
4. Alternately adjust the two mechanical adjusting screws with the 2.0 mm allen wrench (SZZP1101C) until the RF signal amplitude on the oscilloscope is maximize. (Shown in Fig. 9)
5. After completing the adjustment, lock the mechanical adjustments with lock paint (RZZ0L01).



Ⓐ Maximize the amplitude.

• NEW DIGITAL SERVO CIRCUIT

A digital servo circuit employed in this unit is a new type circuit. All adjustment VRs, which are equipped with conventional digital servo circuits, are removed from the electric section. Therefore, only mechanical adjustments are necessary.

(2) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

- Checking Skip Search

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

- Checking Manual Search

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

- Checking playability

1. Play the 0.7 mm black dot and the 0.7 mm wedge on the test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc and verify that no sound skip or noise occurs.

• Locations of Adjustments

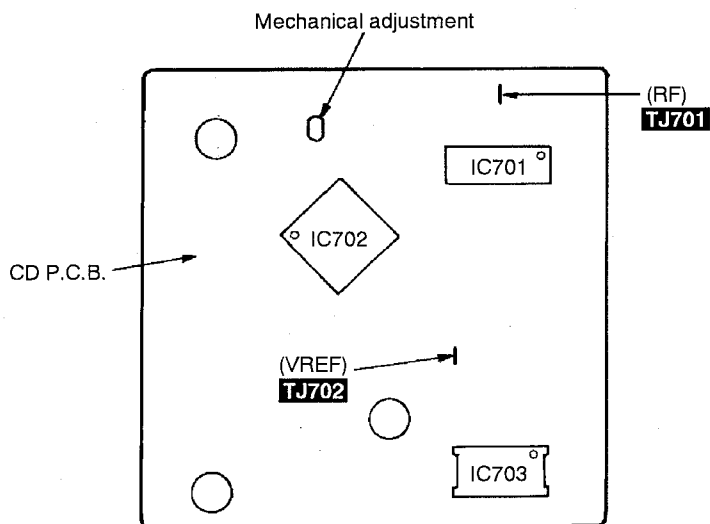


Fig. 8

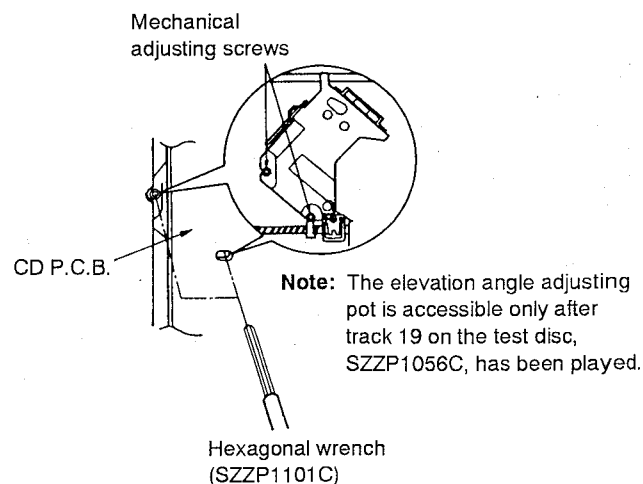
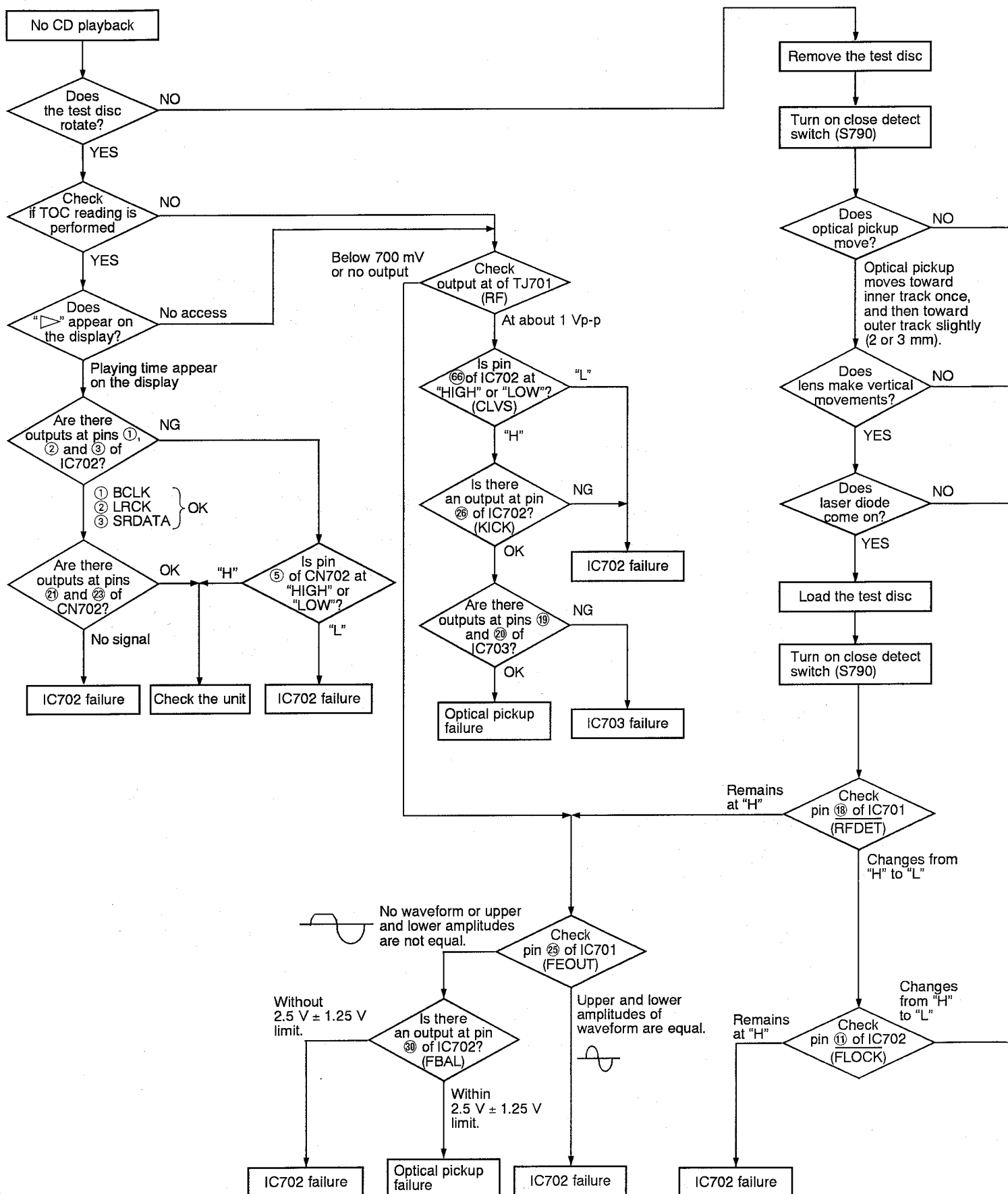
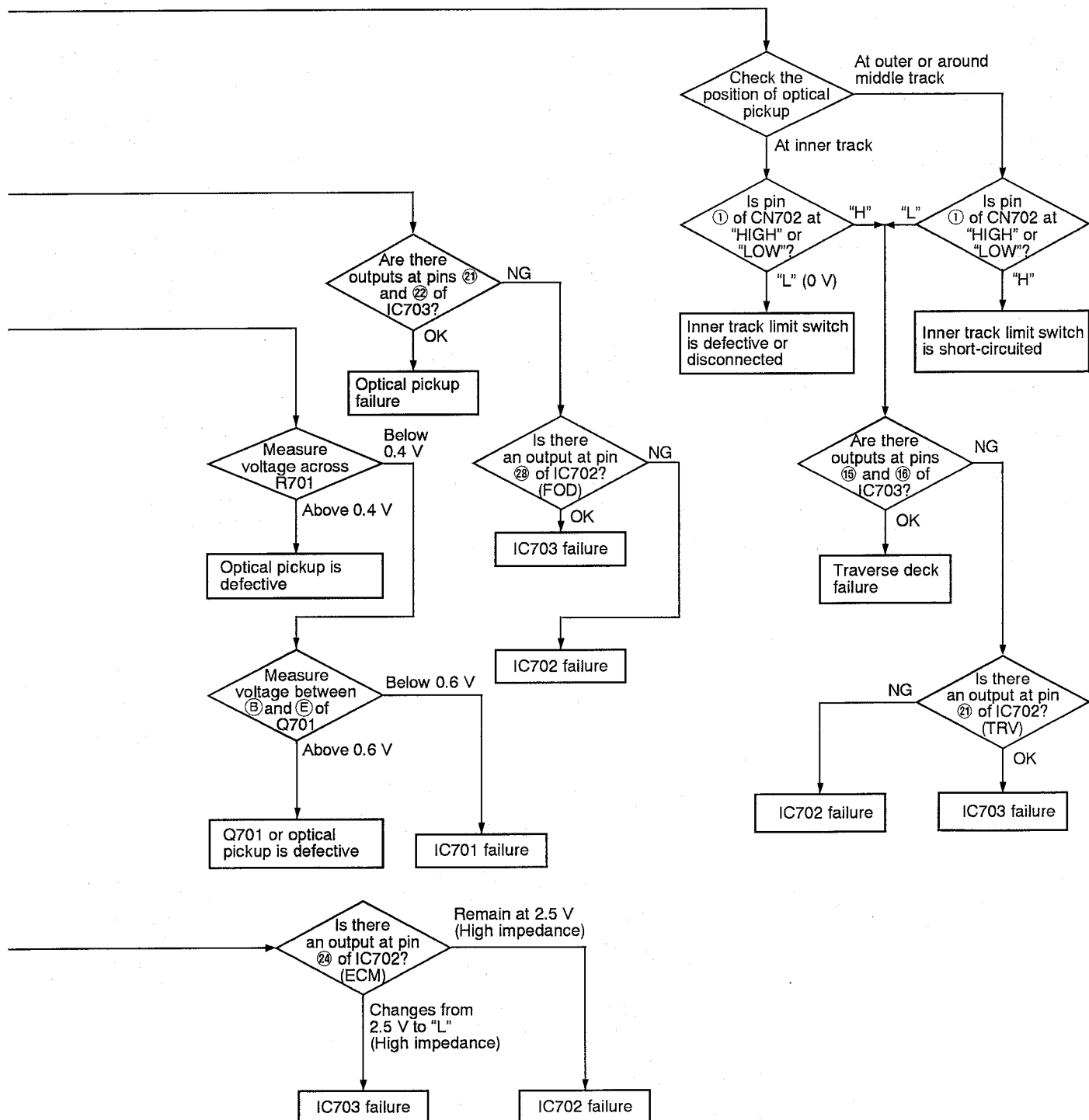


Fig. 9

Troubleshooting Guide





■ Function of IC Terminals

●IC701 (AN8802SCE1V)

Pin No.	Terminal Name	I/O	Function
1	PDAD	I	PD A channel signal input with delay
2	PDA	I	PD A channel signal input without delay
3	LPD	I	Laser PD connection
4	LD	O	Power supply for LD driving
5	AMPI	I	RF amplifier input
6	Vcc	I	Power supply connection
7	AMPO	O	RF amplifier output (no use, open)
8	CAGC	I	AGC loop filter connection
9	ARF	O	RF AGC output
10	CENV	I	Capacitor connection for RF detection
11	CEA	I	Capacitor connection for HPF amplifier
12	GND	—	Ground connection
13	LDON	I	ON/OFF input of LD APC ("H": ON, "L": OFF)
14	TES	I	Tracking error shunt signal input ("H": shunt)
15	PLAY	I	Play signal input ("H": PLAY)
16	WVEL	I	WVEL control
17	BDO	O	BDO output
18	/RFDET	O	NRFDET output
19	CROSS	O	CROSS output
20	OFTR	O	OFTR output
21	VDET	O	VDET output
22	ENV	O	ENV output
23	TEBPF	I	Vibration detection input
24	TE	O	Tracking error output
25	FE	O	Focus error output
26	PTO	O	Potential amplifier output (no use, open)
27	PTI	I	Potential amplifier inversion input (no use, open)
28	TBAL	I	Tracking balance input
29	FBAL	I	Focus balance input
30	VREF	O	VREF output
31	PDB	I	PD B channel signal input without delay
32	PDBD	I	PD B channel signal input with delay

●IC702 (MN66271RA)

Pin No.	Terminal Name	I/O	Function
1	BCLK	O	Bit clock output for serial data (no use, open)
2	LRCK	O	L/R identification signal output (no use, open)
3	SRDATA	O	Serial data output (no use, open)
4	DV _{DD1}	I	Power supply input (for digital circuit)
5	DV _{SS1}	—	GND (for digital circuit)
6	TX	O	Digital audio interface signal output
7	MCLK	I	Microprocessor command clock signal input (Latches data at first transition)
8	MDATA	I	Microprocessor command data signal input
9	MLD	I	Microprocessor command load signal input
10	SENSE	O	Sence signal output (OFT, FESL, MAGEND, NAJEND, POSAD, SFG)
11	/FLOCK	O	Focus servo feeding signal output ("L": Feed)
12	/TLOCK	O	Tracking servo feeding signal output ("L": Feed)
13	BLKCK	O	Sub-code block clock signal output (fBLKCK=75 Hz during normal playback)
14	SQCK	I	External clock signal input for sub-code Q register
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H": Mute)
17	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at MSEL="H" (fSMCK=8.4672 MHz) 1/4-divided clock signal of crystal oscillating at MSEL="L" (fSMCK=4.2336 MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating (fPMCK=88.2 KHz) (no use, open)
21	TRV	O	Traverse forced feed output
22	TVD	O	Traverse drive output
23	PC	O	Spindle motor ON signal output ("L": ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output

Pin No.	Terminal Name	I/O	Function
29	VREF	I	D/A (drive) output (TVD, ECS, TRD, FOD, FBAL, TBAL) Reference voltage input
30	FBAL	I	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H": detection)
36	OFT	I	Off-track signal input ("H": off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L": detection)
39	BDO	I	Dropout signal input ("H": Dropout)
40	LDON	O	Laser on signal output ("H": ON)
41	TES	O	Tracking error shunt signal output ("H": shunt)
42	PLAY	O	Play signal out ("H": PLAY)
43	WVEL	O	Double speed status signal output ("H": Double speed)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	—	DSL bias (no use, open)
47	DSLIF	I/O	DSL loop filter
48	PLLIF	I/O	PLL loop filter
49	VCOF	—	VCO loop filter (no use, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	—	EFM signal output (not use, open)
53	PCK	—	PLL extraction clock output (fPCK=4.321 MHz during normal playback) (no use, open)
54	PDO	—	Phase comparison signal of EFM and PCK signals (no use, open)
55	SUBC	—	Sub-code serial data output (no use, open)
56	SBCK	I	Clock input for sub-code serial data (no use, GND)
57	Vss	—	GND
58	X1	I	Crystal oscillating circuit input (f=16.9344 MHz)
59	X2	O	Crystal oscillation circuit output (f=16.9344 MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	—	Byte clock output (no use, open)

Pin No.	Terminal Name	I/O	Function
62	/CLDCK	—	Sub-code frame clock signal output (fCLDCK=7.35 kHz during normal playback) (no use, open)
63	FCLK	—	Crystal frame clock signal output (fFCLK=7.35 kHz, double=14.7 kHz)
64	PFLAG	—	Interpolation flag output ("H": Interpolation) (no use, open)
65	FLAG	—	Flage output (no use, open)
66	CLVS	—	Spindle servo phase synchronizing signal output ("H": CLV, "L": rough servo) (no use, open)
67	CRC	—	Sub-code CRC checked output ("H": OK, "L": NG) (no use, open)
68	DEMPH	—	De-emphasis ON signal output ("H": ON) (no use, open)
69	RESY	—	Frame resynchronizing signal output (no use, open)
70	/RST2	I	Reset input through MASH circuit ("L": Reset)
71	/TEST	I	Test input
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input (at "H" level, RSEL="H"; at "L" level, RSEL=L)
77	CSEL	I	Crystal oscillating frequency designation input ("L": 16.9344 MHz, "H": 33/8688 MHz)
78	PSEL	—	Test input (normally, "L") (no use, GND)
79	MSEL	—	Output frequency switching for SMCK terminal "H": SMCK=8.4672 MHz "L": SMCK=4.2336 MHz (no use, GND)
80	SSEL	I	Output mode switching of SUBQ terminal ("H": Q code buffer mode)

● IC802 (MND3256REBA1)

Pin No.	Terminal Name	I/O	Function
1	VDD	I	Power supply input (+5 V)
2	OSC1	O	6.0 MHz clock output
3	OSC2	I	6.0 MHz clock input
4	VSS	—	GND
5	X1	I	32 kHz clock input
6	X0	O	32 kHz clock output
7	VREF -	—	AD converter reference voltage (GND)
8	ADIN7	I	AD converter signal input (REC INH F/REC INH R/TPS)
9	ADIN6	I	AD converter signal input (DECK 2: HALF SW /MODE SW/REEL PULSE)
10	ADIN5	I	AD converter signal input (DECK 1: HALF SW /MODE SW/REEL PULSE)
11	ADIN4	I	AD converter signal input (CD TRAY OPEN CLOSE SW)
12	ADIN3	I	AD converter signal input (Power "on" detect)
13	ADIN2	I	AD converter signal input (Operation SW)
14	ADIN1	I	AD converter signal input (Operation SW)
15	ADIN0	I	AD converter signal input (Operation SW)
16	VREF +	—	AD converter reference voltage (VDD)
17	MBP2	O	Beat proof control signal output
18	MBP1	O	Beat proof control signal output
19	BEEP	O	Beep signal output
20	MKLATCH	O	Deck control data latch signal output
21	MKDATA	O	Deck control data output
22	MKCLK	O	Deck control clock output
23	AGCLK	O	Serial clock output (for ASP)
24	AGDATA	O	Serial data output (for ASP)
25	AGLATCH	O	Latch signal output (for ASP)
26	PW CONT.	O	Power supply circuit control (H: Power ON)
27	MUT. A	O	Muting control signal output
28	PLL CE	O	PLL tuner strobe signal output
29	PLL CL	O	PLL tuner clock output
30	PLL DI	O	PLL tuner control data signal output

Pin No.	Terminal Name	I/O	Function
31	REMOCON IN	I	Remote control signal input
32	BLKCK	I	Sub code block clock input
33	STATUS	I	CD status signal input
34	CD RESET	I	CD reset signal input (L: RESET)
35	RST	I	System reset signal input (L: RESET)
36	MLD	O	CD signal process strobe signal output
37	MDATA	O	CD signal process data output
38	MCLK	O	CD signal process clock signal output
39	SQCK	O	CD sub-code reading clock output
40	SUBQ	I	CD sub-code data input
41	ES3	I	—
42	SYNC	—	—
43	CM	I	1-chip microprocessor mode setting input (L: 1-chip)
44	TLOCK/TUNE	I	CD tracking clock signal input/tuner receiving signal input
45	FLOCK/ST	I	CD focus lock signal input/tuner stereo signal input
46	REST	I	CD traverse position detection switch signal input (H: most inside position)
47	ES1	I	—
48	ES2	I	—
49	SENSE	I	CD sense signal input (H: Detect)
50	REMOCON STANDBY	I	Remote control sensor power control (H: ON, 4 MHz)
51	NC	—	—
52	CD TRAY OP	I	CD tray open detection switch signal input
53	CD TRAY CL	I	CD tray close detection switch signal input
54	COBRA CL	O	Top panel close signal output
55	COBRA OP	O	Top panel open signal output
56~59	NC	—	—
60~93	SEG33~SEG0	O	LCD segment signal output
94~97	COM3~COM0	O	LCD common signal output
98~100	VLC3~VLC1	I	LCD bias reference voltage input

●IC703 (AN8389SE1)

Pin No.	Terminal Name	I/O	Function
1	Vcc	I	Power supply
2	VREF	I	VREF input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	No connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (no use, GND)
13	PVCC1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1—	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2—	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3—	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4—	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

Replacement Parts List

Notes: *Important safety notice:

 Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

Parts without these indications can be used for all areas.

*Remote Control Ass'y: Supply period for three years from termination of production.

*Warning: This product uses a laser diode. Refer to caution statements on page 2.

*<VRD> indicates parts that are supplied by Video Recorder Division.

*The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q308, 309	2SB1030QRSTA	TRANSISTOR	
				Q310, 311	2SD1819RTX	TRANSISTOR	
				Q312	2SD965Q	TRANSISTOR	
IC1	TA7358FMATEL	I. C, FM FRONT END		Q313	2SK381BCDTA	TRANSISTOR	
IC2	XLU2616F-E1	I. C, PLL FREQ. SYNTHESIZER		Q314	2SD965Q	TRANSISTOR	
IC3	LA1832MS-TEL	I. C, FM/AM IF AMP. DET		Q315	2SK381BCDTA	TRANSISTOR	
IC301	BA7755A	I. C, R/P SELECT		Q316	2SD1819RTX	TRANSISTOR	
IC302	CXA1898QT6	I. C, R/P EQ AMP.		Q317-319	UN5114TX	TRANSISTOR	
IC601	TA2011S	I. C, MIC AMP.		Q320-326	2SD1819RTX	TRANSISTOR	
IC602	MC14052BFR2	I. C, INPUT SELECTOR		Q401	2SC3311R	TRANSISTOR	
IC604	S81350HGZ	I. C, REGULATOR	Δ	Q403	2SC3312RTA	TRANSISTOR	
IC605	LA5610N	I. C, POWER SUPPLY CONT.	Δ	Q404	2SD1450RTA	TRANSISTOR	
IC606	BH3854FSE1	I. C, ASP		Q501	2SC3311R	TRANSISTOR	
IC607	AN7135	I. C, POWER AMP		Q503	2SC3312RTA	TRANSISTOR	
IC701	AN8802SCEIV	I. C, SERVO AMP		Q504	2SD1450RTA	TRANSISTOR	
IC702	MN66271RA	I. C, SERVO PROCESSOR		Q602	UN421FTA	TRANSISTOR	
IC703	AN8389SE1	I. C, COIL/MOTOR DRIVE		Q603	UN4210-S	TRANSISTOR	
IC790	TA7291S	I. C, MOTOR DRIVE		Q605	UN411FTA	TRANSISTOR	
IC801	S-806H-Z	I. C, RESET		Q607	UN411FTA	TRANSISTOR	
IC802	MND3256REBA1	I. C, SYSTEM CONT. /LCD DRIVE		Q608	UN4210-S	TRANSISTOR	
IC951	DN6851ALB	I. C, HALL		Q609	2SC3311AIRTA	TRANSISTOR	
IC971	DN6851ALB	I. C, HALL		Q610	2SC3311AIRTA	TRANSISTOR	Δ
IC1301	XRA6418N	I. C, MOTOR DRIVE		Q611	UN4213	TRANSISTOR	
		TRANSISTOR(S)		Q612	UN4111	TRANSISTOR	
				Q613	UN4210-S	TRANSISTOR	
Q1, 2	2SC3311R	TRANSISTOR		Q616	UN411FTA	TRANSISTOR	
Q3	2SC2786LTA	TRANSISTOR		Q617	2SC3311AIRTA	TRANSISTOR	
Q4	2SC3313B	TRANSISTOR		Q701	2SB709S	TRANSISTOR	
Q5	UN411FTA	TRANSISTOR		Q801, 802	2SC3311R	TRANSISTOR	
Q8	2SC3311R	TRANSISTOR				DIODE(S)	
Q10	UN411FTA	TRANSISTOR					
Q11	2SD1450RTA	TRANSISTOR		D1	KV1360NT	DIODE	
Q12	2SC3311R	TRANSISTOR		D3	KV1583BMTL	DIODE	
Q14	2SC3311R	TRANSISTOR		D4	KV1360NT	DIODE	
Q101	2SJ40CTA	TRANSISTOR		D8	MA165	DIODE	
Q102	2SJ40CDTA	TRANSISTOR		D10	MA165	DIODE	
Q103	2SJ40DTA	TRANSISTOR		D11	RVD1SSI35TA	DIODE	
Q201	2SJ40CTA	TRANSISTOR		D301	MA110TX	DIODE	
Q202	2SJ40CDTA	TRANSISTOR		D302	MA8047MTX	DIODE	
Q203	2SJ40DTA	TRANSISTOR		D609	RVDMTZ10BTA	DIODE	Δ
Q301, 302	2SC2389SSTA	TRANSISTOR		D610	RVDMTZ8R2BTA	DIODE	Δ
Q303	2SD1450RTA	TRANSISTOR		D616, 617	MA165	DIODE	
Q304	UN5210TX	TRANSISTOR		D619-621	MA165	DIODE	
Q305, 306	2SC3311R	TRANSISTOR		D623, 624	MA165	DIODE	
Q307	2SD1819RTX	TRANSISTOR		D627	RB441QT77	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D629	MA165	DIODE					
D650	RVDMTZ10BTA	DIODE	△			TRANSFORMER(S)	
D801	MA165	DIODE					
D802	MA4051MTA	DIODE		T1	RL12Z014-T	AM IFT	
D901-904	RL203M11	DIODE	△	T901	RTP1U1B001AX	POWER TRANSFORMER	△
D951	RVD1SS133TA	DIODE				FILTER(S)	
D971	RVD1SS133TA	DIODE					
D1001	RVDMTZ6R8BTA	DIODE					
D1003	LNJ170WHFDA	LED		CF1, 2	RLFFETMLA02D	CERAMIC FILTER	
D1101	BU1236	LED		CF3	RLFDFT12DD	CERAMIC FILTER	
		IC PROTECTOR				OSCILLATOR(S)	
ICP601	SRUN15	IC PROTECTOR	△	X1	RSXZ456KM01	OSCILLATOR (456KHz)	
				X2	RSXC7M20S04T	OSCILLATOR (7. 2MHz)	
		VARIABLE RESISTOR(S)		X701	RSXZ16M9M02T	OSCILLATOR (16. 9344MHz)	
				X801	RSXZ6M00M01T	OSCILLATOR (6MHz)	
VR301	RRN6B05B14TA	V. R, TAPE SPEED (HIGH)	DECK2	X802	RSXD32K7S03	OSCILLATOR (32. 7KHz)	
VR302	RRN6B05B24TA	V. R, TAPE SPEED (NORMAL)	DECK2				
VR303	RRN6B05B73TA	V. R, TAPE SPEED (NORMAL)	DECK1			FUSE(S)	
		COMPONENT COMBINATION(S)		F901	XBA2C20TBOU	FUSE 250V 2. 0A	△
Z1	RXABPWB6A	COMPONENT COMBINATION				SWITCH(ES)	
Z301-303	EXBF6L306SYV	COMPONENT COMBINATION					
Z1001	RCDGP1U58XD	REMOTE SENSOR		S701	RSM0006-P	SW, REST	
BZ401	RAT0014	TWEETER		S790	RSH1A005	SW, CLOSE	
BZ501	RAT0014	TWEETER		S791	RSH1A005	SW, OPEN	
BZ801	RAT0014	BUZZER		S801	EVQ21405R	SW, CLOCK CHECK/ADJUST	
				S802	EVQ21405R	SW, TIMER CHECK/ADJUST	
		COIL(S)		S803	EVQ21405R	SW, TIMER PLAY/REC	
				S804	EVQ21405R	SW, MEMORY/AUTO PRESET	
L1	RL02B011-T	COIL		S805	EVQ21405R	SW, TIMER SET/TUNING/CD -	
L2	RL01B004-T	COIL		S806	EVQ21405R	SW, TIMER SET/TUNING CD +	
L3	RLV6C012-0	COIL		S807	EVQ21405R	SW, EASY CD REC	
L4	ELEXT101KA9	COIL		S808	EVQ21405R	SW, TAPE EDIT	
L5	RLQZP8R2JT-Y	COIL		S809	EVQ21405R	SW, REC/REC PAUSE	
L8	ELEXT101KA9	COIL		S810	EVQ21405R	SW, DECK 1/2	
L301	RL08B003M-K	COIL		S811	EVQ21405R	SW, FF TPS	
L302-304	RLQB470KTA-Y	COIL		S812	EVQ21405R	SW, REW TPS	
L401	RL1500050T-Y	COIL		S813	EVQ21405R	SW, CD SEARCH	
L501	RL1500050T-Y	COIL		S814	EVQ21405R	SW, CD SEARCH	
L602	RLQB221JTA-Y	COIL		S901	RJJ1SE01-H	SW, AC/DC (JK901)	△
L603	RL1500050T-Y	COIL		S951	RSH1A892D-U	SW, MODE (DECK1)	
L605-609	RL1500050T-Y	COIL		S952	RSH1A90YD-U	SW, HALF (DECK1)	
L610	RLQB470KTA-Y	COIL		S953	RSH1A90YD-U	SW, ATS/Cr02 (DECK1)	
L614	RLQB470KTA-Y	COIL		S971	RSH1A892D-U	SW, MODE (DECK2)	
L615	RL1500050T-Y	COIL		S972	RSH1A90YD-U	SW, HALF (DECK2)	
L801-803	ELEXT2R2KA9	COIL		S973	RSH1A90YD-U	SW, R REC 1NH. (DECK2)	
L807	RL1500050T-Y	COIL		S974	RSH1A90YD-U	SW, F. REC 1NH. (DECK2)	
L901, 902	RL1500050T-Y	COIL	△	S975	RSH1A90YD-U	SW, ATS/Cr02 (DECK2)	
L1301	RLQB470KTA-Y	COIL		S1001	EVQ21405R	SW, CD EJECT	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
S1002	EVQ21405R	SW, COBRA TOP PANEL CLOSE		LCD801	RSL5127-L	LCD	
S1003	EVQ21405R	SW, COBRA TOP PANEL OPEN					
S1004	EVQ21405R	SW, POWER, AC/ON				JACK(S)	
S1005	EVQ21405R	SW, VOLUME -					
S1006	EVQ21405R	SW, VOLUME +		JK601	RJJ1D252A-C	MIX MIC	
S1007	EVQ21405R	SW, TAPE/PLAY		JK602	RJJ33T01	AUX IN	
S1008	EVQ21405R	SW, TAPE/STOP		JK603	RJJ37TK01-C	HEADPHONES	
S1009	EVQ21405R	SW, TUNER/BAND		JK901	RJJ1SE01-H	AC IN(S901)	△
S1010	EVQ21405R	SW, CD/STOP, CLEAR					
S1011	EVQ21405R	SW, CD/PLAY/PAUSE				TEST POINT	
S1012	EVQ21405R	SW, PRESET EQ					
S1013	EVQ21405R	SW, SURROUND		TP1	RJP3G12A	TEST POINT	
S1014	EVQ21405R	SW, AUX					
		CONNECTOR(S)					
CP301	RJP5G18ZA	CONNECTOR(5P)					
CP302	SJTD413	CONNECTOR(4P)					
CP303	RJT028W010-2	CONNECTOR(10P)					
CP304	RJT028W009-2	CONNECTOR(9P)					
CP601	RJT060B04	CONNECTOR(4P)					
CP790	RJP6G17ZA	SOCKET(6P)					
CN701	RJU035T016-1	SOCKET(16P)					
CN702	RJS1A6723-1Q	SOCKET(23P)					
CP901	RJT029W003-1	CONNECTOR(3P)					
CP902	RJT029W004	CONNECTOR(4P)					
CP3031	RJT057W010-1	CONNECTOR(10P)					
CP3041	RJT057W008-1	CONNECTOR(8P)					
CS1	RJT028W011-2	CONNECTOR(11P)					
CS11	RJT057W012-1	CONNECTOR(12P)					
CS12	RJU057W012	SOCKET(12P)					
CS13	RJU028W011-1	SOCKET(11P)					
CS303	RJU028W010	SOCKET(10P)					
CS304	RJU028W009-1	SOCKET(9P)					
CS702	RJS1A6723-Q	SOCKET(23P)					
CS801	RJS1A6840	SOCKET(40P)					
CS1301	RJP4G17ZA	SOCKET(4P)					
CS3031	RJU057W010	SOCKET(10P)					
CS3041	RJU057W008	SOCKET(8P)					
CS8011	RJS1A6840	SOCKET(40P)					
		VARIABLE CAPACITOR(S)					
CT1	RCV10AF1T-S	TRIMMER CAPACITOR					
CT2	ECRLA030E53R	TRIMMER CAPACITOR					
		FUSE HOLDER(S)					
FH901, 902	EYF52BC	FUSE HOLDER					
		DISPLAY					

Notes : * Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS						
R1	ERDS2TJ104	1/4W 100K	R104	ERJ6GEYJ104V	1/10W 100K	R342	ERJ8GEYJ221V	1/8W 220
R2	ERDS2TJ332	1/4W 3.3K	R105	ERJ6GEYJ182V	1/10W 1.8K	R343	ERJ6GEYJ103V	1/10W 10K
R3	ERDS2TJ104	1/4W 100K	R106	ERJ6GEYJ332V	1/10W 3.3K	R344	ERJ6GEYJ123V	1/10W 12K
R5	ERDS2TJ103	1/4W 10K	R108	ERJ6GEYJ272V	1/10W 2.7K	R346	ERJ6GEYJ272V	1/10W 2.7K
R6	ERDS2TJ152	1/4W 1.5K	R109	ERJ6GEYJ392V	1/10W 3.9K	R347	ERJ6GEYJ334V	1/10W 330K
R7	ERDS2TJ330	1/4W 33	R110	ERJ6GEYJ822V	1/10W 8.2K	R348	ERJ6GEYJ123V	1/10W 12K
R8	ERDS2TJ104	1/4W 100K	R111	ERJ6GEYJ104V	1/10W 100K	R349	ERJ6GEYJ104V	1/10W 100K
R9	ERDS2TJ471	1/4W 470	R201	ERJ6GEYJ101V	1/10W 100	R350	ERJ6GEYJ334V	1/10W 330K
R10	ERDS2TJ102	1/4W 1K	R203	ERJ6GEYJ682V	1/10W 6.8K	R351, 352	ERJ6GEYJ103V	1/10W 10K
R11	ERDS2TJ103	1/4W 10K	R204	ERJ6GEYJ104V	1/10W 100K	R353, 354	ERJ6GEYJ104V	1/10W 100K
R12	ERDS2TJ223	1/4W 22K	R205	ERJ6GEYJ182V	1/10W 1.8K	R355, 356	ERJ6GEYJ103V	1/10W 10K
R13	ERDS2TJ153	1/4W 15K	R206	ERJ6GEYJ332V	1/10W 3.3K	R366	ERJ6GEYJ123V	1/10W 12K
R14	ERDS2TJ103	1/4W 10K	R208	ERJ6GEYJ272V	1/10W 2.7K	R367	ERJ6GEYJ100	1/10W 10
R15	ERDS2TJ223	1/4W 22K	R209	ERJ6GEYJ392V	1/10W 3.9K	R368	ERJ6GEYJ330V	1/10W 33
R17	ERDS2TJ103	1/4W 10K	R210	ERJ6GEYJ822V	1/10W 8.2K	R369	ERJ6GEYJ334V	1/10W 330K
R18	ERDS2TJ223	1/4W 22K	R211	ERJ6GEYJ104V	1/10W 100K	R401	ERDS2TJ124	1/4W 120K
R19	ERDS2TJ101	1/4W 100	R301	ERJ6GEYJ103V	1/10W 10K	R402	ERDS2TJ103	1/4W 10K
R20	ERDS2TJ151	1/4W 150	R302-304	ERJ6GEYJ102V	1/10W 1K	R404	ERDS2TJ104T	1/4W 100K
R22	ERDS2TJ331	1/4W 330	R305	ERJ6GEYJ472V	1/10W 4.7K	R405	ERDS2TJ103	1/4W 10K
R24	ERDS2TJ471	1/4W 470	R306	ERJ6GEYJ103V	1/10W 10K	R406	ERDS2TJ823T	1/4W 82K
R25	ERDS2TJ104	1/4W 100K	R307	ERJ6GEYJ223V	1/10W 22K	R409	ERDS2TJ824	1/4W 820K
R26, 27	ERDS2TJ102	1/4W 1K	R308 Δ	ERD2FCVJ4R7T	1/4W 4.7	R410	ERDS2TJ562	1/4W 5.6K
R28	ERDS2TJ334	1/4W 330K	R309	ERJ6GEYJ472V	1/10W 4.7K	R411	ERDS2TJ471	1/4W 470
R29	ERDS2TJ331	1/4W 330	R310	ERJ6GEYJ332V	1/10W 3.3K	R414	ERDS2TJ153	1/4W 15K
R30	ERDS2TJ822	1/4W 8.2K	R311	ERJ6GEYJ472V	1/10W 4.7K	R415	ERDS2TJ103	1/4W 10K
R31	ERDS2TJ472	1/4W 4.7K	R312	ERJ6GEYJ334V	1/10W 330K	R416	ERDS2TJ392T	1/4W 3.9K
R36, 37	ERDS2TJ223	1/4W 22K	R313	ERJ6GEYJ123V	1/10W 12K	R417	ERDS2TJ102	1/4W 1K
R40	ERDS2TJ105T	1/4W 1M	R314	ERJ6GEYJ222V	1/10W 2.2K	R418	ERDS2TJ683	1/4W 68K
R41	ERDS2TJ301T	1/4W 300	R315	ERJ6GEYJ102V	1/10W 1K	R419	ERDS2TJ1R2	1/4W 1.2
R42	ERDS2TJ103	1/4W 10K	R316	ERJ6GEYJ103V	1/10W 10K	R420	ERDS2TJ1R0	1/4W 1.0
R43, 44	ERDS2TJ222	1/4W 2.2K	R317	ERJ6GEYJ330V	1/10W 33	R421	ERDS2TJ181T	1/4W 180
R47	ERDS2TJ332	1/4W 3.3K	R318	ERJ6GEYJ335V	1/10W 3.3M	R422	ERDS2TJ152	1/4W 1.5K
R49	ERDS2TJ103	1/4W 10K	R319-322	ERJ6GEYJ104V	1/10W 100K	R423	ERDS2TJ222	1/4W 2.2K
R52	ERDS2TJ223	1/4W 22K	R323, 324	ERJ6GEYJ273V	1/10W 27K	R501	ERDS2TJ124	1/4W 120K
R54	ERDS2TJ222	1/4W 2.2K	R325	ERJ6GEYJ104V	1/10W 100K	R502	ERDS2TJ103	1/4W 10K
R55, 56	ERDS2TJ223	1/4W 22K	R326	ERJ6GEYJ153V	1/10W 15K	R504	ERDS2TJ104T	1/4W 100K
R57	ERDS2TJ103	1/4W 10K	R327	ERJ8GEYJ222V	1/8W 2.2K	R505	ERDS2TJ103	1/4W 10K
R59	ERDS2TJ471	1/4W 470	R328	ERJ8GEYJ103V	1/8W 10K	R506	ERDS2TJ823T	1/4W 82K
R61	ERDS2TJ103	1/4W 10K	R329	ERJ6GEYJ334V	1/10W 330K	R509	ERDS2TJ824	1/4W 820K
R62	ERDS2TJ471	1/4W 470	R330	ERJ6GEYJ332V	1/10W 3.3K	R510	ERDS2TJ562	1/4W 5.6K
R63	ERDS2TJ105T	1/4W 1M	R331	ERJ8GEYJ332V	1/8W 3.3K	R511	ERDS2TJ471	1/4W 470
R64	ERDS2TJ332	1/4W 3.3K	R332	ERJ8GEYJ104V	1/8W 100K	R514	ERDS2TJ153	1/4W 15K
R65	ERDS2TJ470	1/4W 47	R333	ERJ6GEYJ472V	1/10W 4.7K	R515	ERDS2TJ103	1/4W 10K
R66	ERDS2TJ332	1/4W 3.3K	R334, 335	ERJ6GEYJ103V	1/10W 10K	R516	ERDS2TJ392T	1/4W 3.9K
R101	ERJ6GEYJ101V	1/10W 100	R336	ERJ8GEYJ221V	1/8W 220	R517	ERDS2TJ102	1/4W 1K
R103	ERJ6GEYJ682V	1/10W 6.8K	R338	ERJ6GEYJ153V	1/10W 15K	R518	ERDS2TJ683	1/4W 68K
			R339	ERJ6GEYJ392V	1/10W 3.9K	R519	ERDS2TJ1R2	1/4W 1.2
			R340	ERJ6GEYJ183V	1/10W 18K	R520	ERDS2TJ1R0	1/4W 1.0
			R341	ERJ6GEYJ334V	1/10W 330K	R521	ERDS2TJ181T	1/4W 180

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R522	ERDS2TJ152	1/4W 1.5K	R708	ERJ6GEYJ104V	1/10W 100K	R858	ERDS2TJ152	1/4W 1.5K
R523	ERDS2TJ222	1/4W 2.2K	R709	ERJ6GEYJ683V	1/10W 68K	R859	ERDS2TJ182	1/4W 1.8K
R601	ERDS2TJ101	1/4W 100	R711	ERJ6GEYJ154V	1/10W 150K	R860	ERDS2TJ392T	1/4W 3.9K
R602	ERDS2TJ472	1/4W 4.7K	R712	ERJ6GEYJ221V	1/10W 220	R861	ERDS2TJ562	1/4W 5.6K
R603	ERDS2TJ222	1/4W 2.2K	R714	ERJ6GEYOR00A	1/10W 0.00	R862	ERDS2TJ103	1/4W 10K
R604	ERDS2TJ105T	1/4W 1M	R717-720	ERJ6GEYJ102A	1/10W 1K	R863	ERDS2TJ183T	1/4W 18K
R607	ERDS2TJ221	1/4W 220	R721	ERJ6GEYJ101V	1/10W 100	R864	ERDS2TJ104	1/4W 100K
R609	ERDS2TJ101	1/4W 100	R722	ERJ6GEYJ563V	1/10W 56K	R865	ERDS2TJ474	1/4W 470K
R616	ERDS2TJ103	1/4W 10K	R723	ERJ6GEYJ182V	1/10W 1.8K	R866	ERDS2TJ334	1/4W 330K
R617 △	ERD2FCVG680T	1/4W 68	R724	ERJ6GEYJ333V	1/10W 33K	R1001	ERDS2TJ272T	1/4W 2.7K
R620	ERDS2TJ101	1/4W 100	R725	ERJ6GEYJ472V	1/10W 4.7K	R1002	ERDS2TJ392T	1/4W 3.9K
R621	ERDS2TJ103	1/4W 10K	R726	ERJ6GEYJ473V	1/10W 47K	R1003	ERDS2TJ562	1/4W 5.6K
R623	ERDS2TJ222	1/4W 2.2K	R727	ERJ6GEYJ103V	1/10W 10K	R1004	ERDS2TJ103	1/4W 10K
R625	ERDS2TJ563	1/4W 56K	R728	ERJ6GEYJ392V	1/10W 3.9K	R1005	ERDS2TJ183T	1/4W 18K
R626	ERDS2TJ474	1/4W 470K	R730	ERJ6GEYJ331V	1/10W 330	R1007	ERDS2TJ102	1/4W 1K
R627	ERDS2TJ473	1/4W 47K	R731	ERJ6GEYJ392V	1/10W 3.9K	R1008	ERDS2TJ122	1/4W 1.2K
R628	ERDS2TJ221	1/4W 220	R734-736	ERJ6GEYJ101V	1/10W 100	R1009	ERDS2TJ152	1/4W 1.5K
R630	ERDS2TJ1R5T	1/4W 1.5	R738	ERJ6GEYJ223V	1/10W 22K	R1010	ERDS2TJ182	1/4W 1.8K
R631	ERDS2TJ103	1/4W 10K	R739	ERJ6GEYJ681V	1/10W 680	R1011	ERDS2TJ272T	1/4W 2.7K
R632	ERDS2TJ472	1/4W 4.7K	R741-743	ERJ6GEYJ562V	1/10W 5.6K	R1012	ERDS2TJ392T	1/4W 3.9K
R633	ERDS2TJ333	1/4W 33K	R744	ERJ6GEYJ103V	1/10W 10K	R1013	ERDS2TJ562	1/4W 5.6K
R634	ERDS2TJ223	1/4W 22K	R745	ERJ6GEYJ155V	1/10W 1.5M	R1016	ERDS2TJ181T	1/4W 180
R635	ERDS2TJ122	1/4W 1.2K	R748	ERJ6GEYJ182V	1/10W 1.8K	R1018	ERDS2TG103T	1/4W 10K
R636	ERDS2TJ472	1/4W 4.7K	R749	ERJ8GEYJ103V	1/8W 10K	R1019, 1020	ERDS2TJ223	1/4W 22K
R637	ERDS2TJ331	1/4W 330	R801, 802	ERDS2TJ332	1/4W 3.3K	R1022	ERDS2TJ272T	1/4W 2.7K
R638	ERDS2TJ472	1/4W 4.7K	R803	ERDS2TJ103	1/4W 10K	R1101	ERDS2TJ221	1/4W 220
R639	ERDS2TJ222	1/4W 2.2K	R804	ERDS2TJ563	1/4W 56K			CHIP JUMPER
R640	ERDS2TJ472	1/4W 4.7K	R805	ERDS2TJ623T	1/4W 62K			
R641	ERG1SJ470E	1W 47	R806	ERDS2TJ563	1/4W 56K			
R642-644	ERDS2TJ102	1/4W 1K	R808	ERDS2TJ105T	1/4W 1M	RJ701-704	ERJ8GEYOR00A	1/8W 0.00
R645-647	ERDS2TJ334	1/4W 330K	R809	ERDS2TJ106T	1/4W 10M	RJ707-709	ERJ8GEYOR00A	1/8W 0.00
R649, 650	ERDS2TJ103	1/4W 10K	R810	ERDS2TJ334	1/4W 330K	RJ714-717	ERJ8GEYOR00A	1/8W 0.00
R660	ERDS2TJ103	1/4W 10K	R815-817	ERDS2TJ472	1/4W 4.7K	RJ721	ERJ6GEYOR00A	1/10W 0.00
R663	ERDS2TJ472	1/4W 4.7K	R819-822	ERDS2TJ472	1/4W 4.7K	RJ724-726	ERJ6GEYOR00A	1/10W 0.00
R664	ERDS2TJ561	1/4W 560	R823, 824	ERDS2TJ103	1/4W 10K			TEST JUMPER
R665	ERDS2TJ822	1/4W 8.2K	R825-827	ERDS2TJ472	1/4W 4.7K			
R666, 667	ERDS2TJ472	1/4W 4.7K	R828-830	ERDS2TJ103	1/4W 10K			
R668	ERDS2TJ102	1/4W 1K	R831	ERDS2TJ472	1/4W 4.7K	TJ701, 702	EYF8CU	
R669	ERDS2TJ153	1/4W 15K	R832	ERDS2TJ124T	1/4W 120K			CAPACITORS
R675	ERDS2TJ1R5T	1/4W 1.5	R833	ERDS2TJ104	1/4W 100K			
R676	ERDS2TJ101	1/4W 100	R834	ERDS2TJ222	1/4W 2.2K			
R678	ERDS2TJ223	1/4W 22K	R835-837	ERDS2TJ102	1/4W 1K	C4	RCBS1H102KBY	50V 1000P
R679	ERDS2TJ562	1/4W 5.6K	R838-841	ERDS2TJ104	1/4W 100K	C5	ECBT1H2R2KC5	50V 2.2P
R680	ERDS2TJ182	1/4W 1.8K	R844	ERDS2TJ103	1/4W 10K	C6	RCBS1H102KBY	50V 1000P
R681	ERDS2TJ102	1/4W 1K	R845	ERDS2TJ104	1/4W 100K	C9	ECEA1HKNO10B	50V 1U
R701	ERJ6GEYJ100	1/10W 10	R846-849	ERDS2TJ102	1/4W 1K	C10	ECBT1C332MR5	16V 3300P
R702	ERJ6GEYJ471V	1/10W 470	R851	ERDS2TJ102	1/4W 1K	C11	ECEA1AKA101B	10V 100U
R703	ERJ6GEYJ823	1/10W 82K	R852	ERDS2TJ122	1/4W 1.2K	C12	ECFR1C473MR	16V 0.047U
R704	ERJ6GEYJ102A	1/10W 1K	R853	ERDS2TJ152	1/4W 1.5K	C13	ECFR1C103MR	16V 0.01U
R705	ERJ6GEYJ103V	1/10W 10K	R855	ERDS2TJ102	1/4W 1K	C14	ECBT1C103MS5	16V 0.01U
R706	ERJ6GEYJ102A	1/10W 1K	R856	ERDS2TJ182	1/4W 1.8K	C15	ECBT1H6R8KC5	50V 6.8P
R707	ERJ6GEYJ473V	1/10W 47K	R857	ERDS2TJ122	1/4W 1.2K	C16, 17	RCBS1H102KBY	50V 1000P

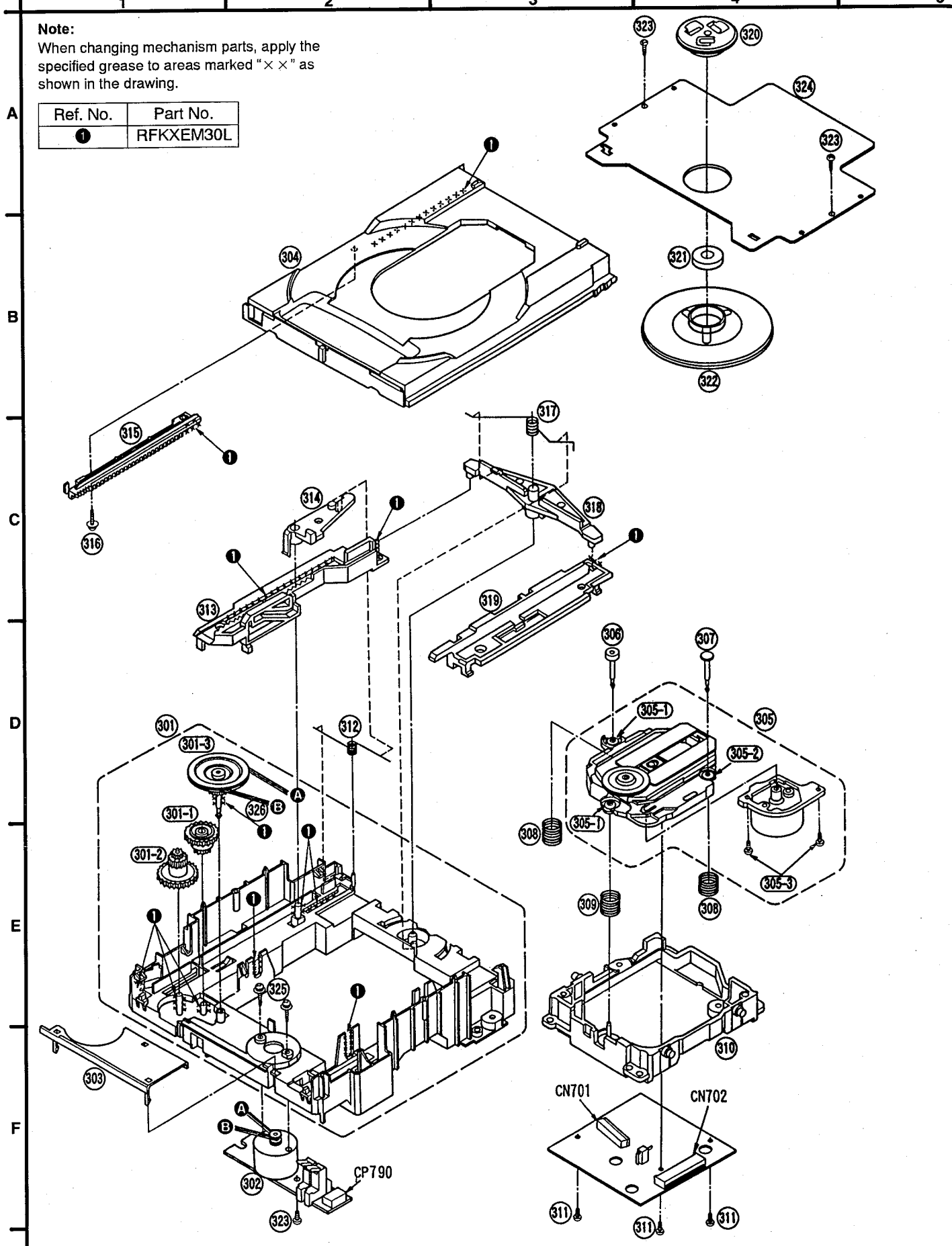
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Loading Unit Parts Location

Note:

When changing mechanism parts, apply the specified grease to areas marked "× ×" as shown in the drawing.

Ref. No.	Part No.
1	RFKXEM30L

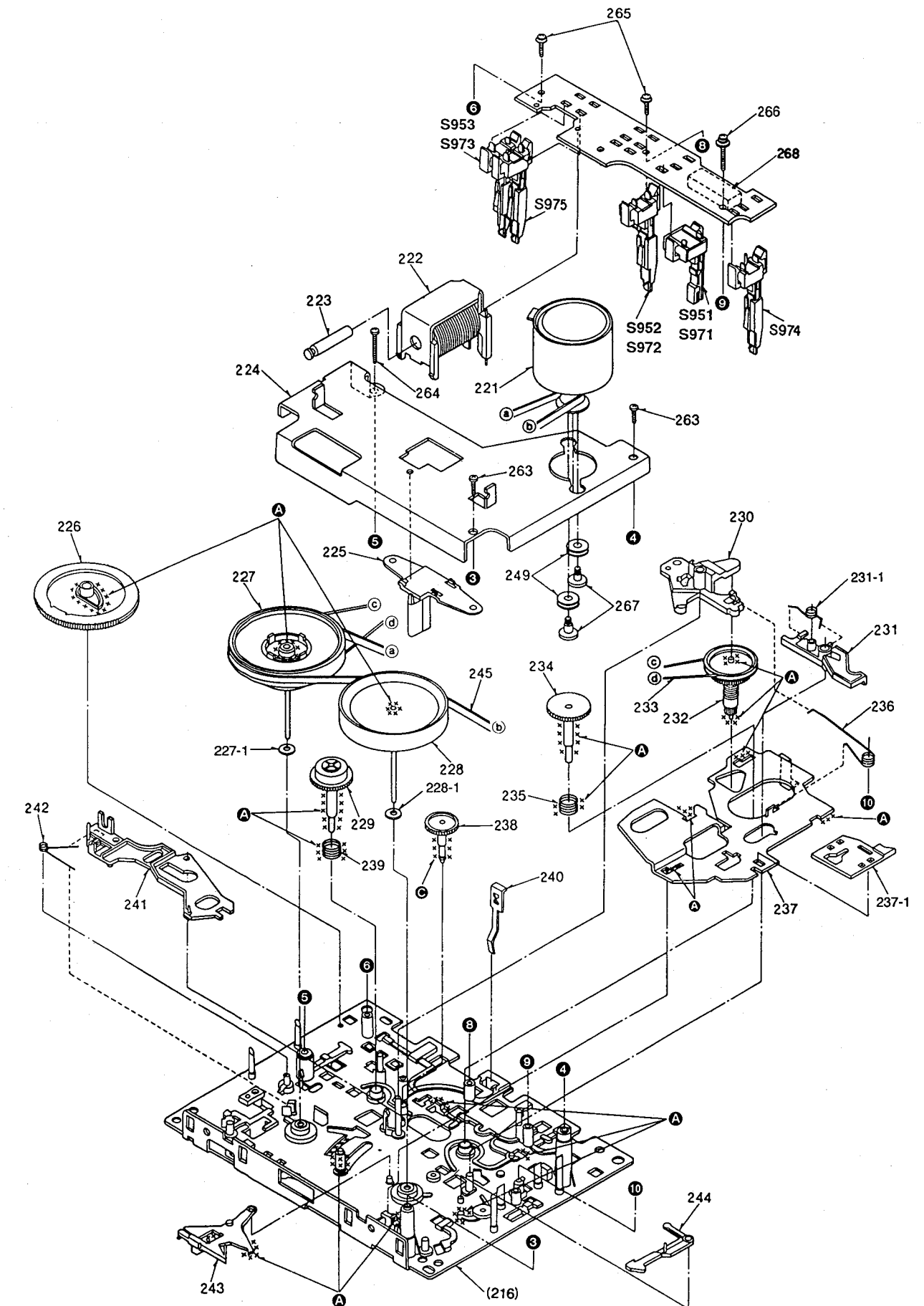
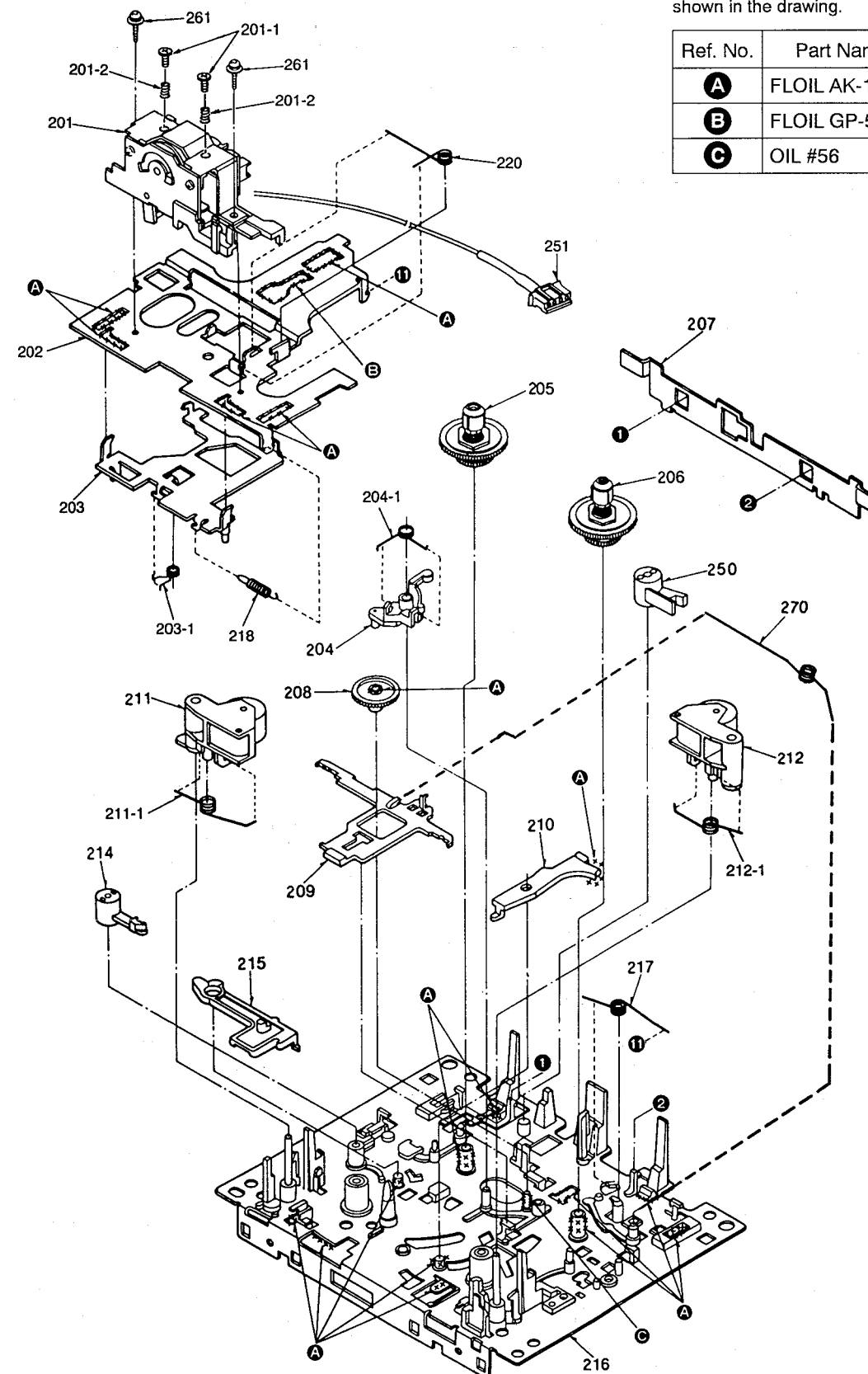


Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS		241	RUB514ZC	LEVER	
				242	RUW147ZA	SPRING	
				243	RUB515ZA	LEVER	
201	RXQ0383	HEAD ASS' Y (P. B)	DECK1	244	RUB509ZA	LEVER	
201	RXQ0384	HEAD ASS' Y (R/P)	DECK2	245	RDV108ZA	BELT	
201-1	RHE5152ZB	SCREW		249	RMG0102-1	RUBBER	
201-2	RMB0331	SPRING		250	RNL180ZB	LEVER	
202	RUA793ZF	CHASSIS		251	REX0308	WIRE ASS' Y	DECK1
203	RZLAR300	LEVER ASS' Y		251	REX0294-1	WIRE ASS' Y	DECK2
203-1	RUW143ZA	SPRING		261	XTW2+6L	SCREW	
204	1UB0089ZA	LEVER ASS' Y		263	XTN26+7J	SCREW	
204-1	RUW148ZA	SPRING		264	RHE5203ZA	SCREW	
205	1DM0018ZB	REEL TABLE ASS' Y		265	XTW2+8S	SCREW	
206	1DM0017ZB	REEL TABLE ASS' Y		266	XYC2+JF16	SCREW	
207	RML0069-1	LEVER		267	RHD26002	SCREW	
208	RDG5772ZC	GEAR		268	RJS7T7ZA	CONNECTOR (J951)	DECK1
209	RUB508ZB	LEVER		268	RJS10T7ZA	CONNECTOR (J971)	DECK2
210	RUB506ZB	LEVER		270	RUW144ZA	SPRING	
211	1UB0088ZB	PINCH ROLLER ASS' Y					
211-1	RMB0310	SPRING					
212	1UB0087ZB	PINCH ROLLER ASS' Y					
212-1	RUW140ZC	SPRING					
214	RNL1ZD	ARM					
215	RUB503ZD	LEVER					
216	RFKRRSCH9N	CHASSIS ASS' Y					
217	RUW142ZA	SPRING					
218	RUD105ZA	SPRING					
220	RUW139ZA	SPRING					
221	REM0036-1	MOTOR ASS' Y					
222	1UE0015ZA	PLUNGER ASS' Y					
223	RUB428ZE	SHAFT					
224	RUL1030YB	PLATE					
225	RMD5014ZC	SPACER					
226	RDG5927ZG	GEAR					
227	RFKRSDS35-K	FLYWHEEL ASS' Y					
227-1	RNW139ZA	WASHER					
228	1DW0038ZB	FLYWHEEL ASS' Y					
228-1	RNW138ZA	WASHER					
229	1DG0006ZB	GEAR ASS' Y					
230	RUB513ZD	LEVER					
231	1UB0091ZA	LEVER ASS' Y					
231-1	RUW146ZA	SPRING					
232	1DR0011ZB	PULLEY ASS' Y					
233	RDV90ZB	BELT					
234	RDG5769ZA	GEAR					
235	RUQ111ZB	SPRING					
236	RUW145ZA	SPRING					
237	1UB0090ZA	ROD ASS' Y					
237-1	RUB512ZB	ROD					
238	RDG5773ZB	GEAR					
239	RUQ112ZA	SPRING					
240	RUS609ZC	SPRING					

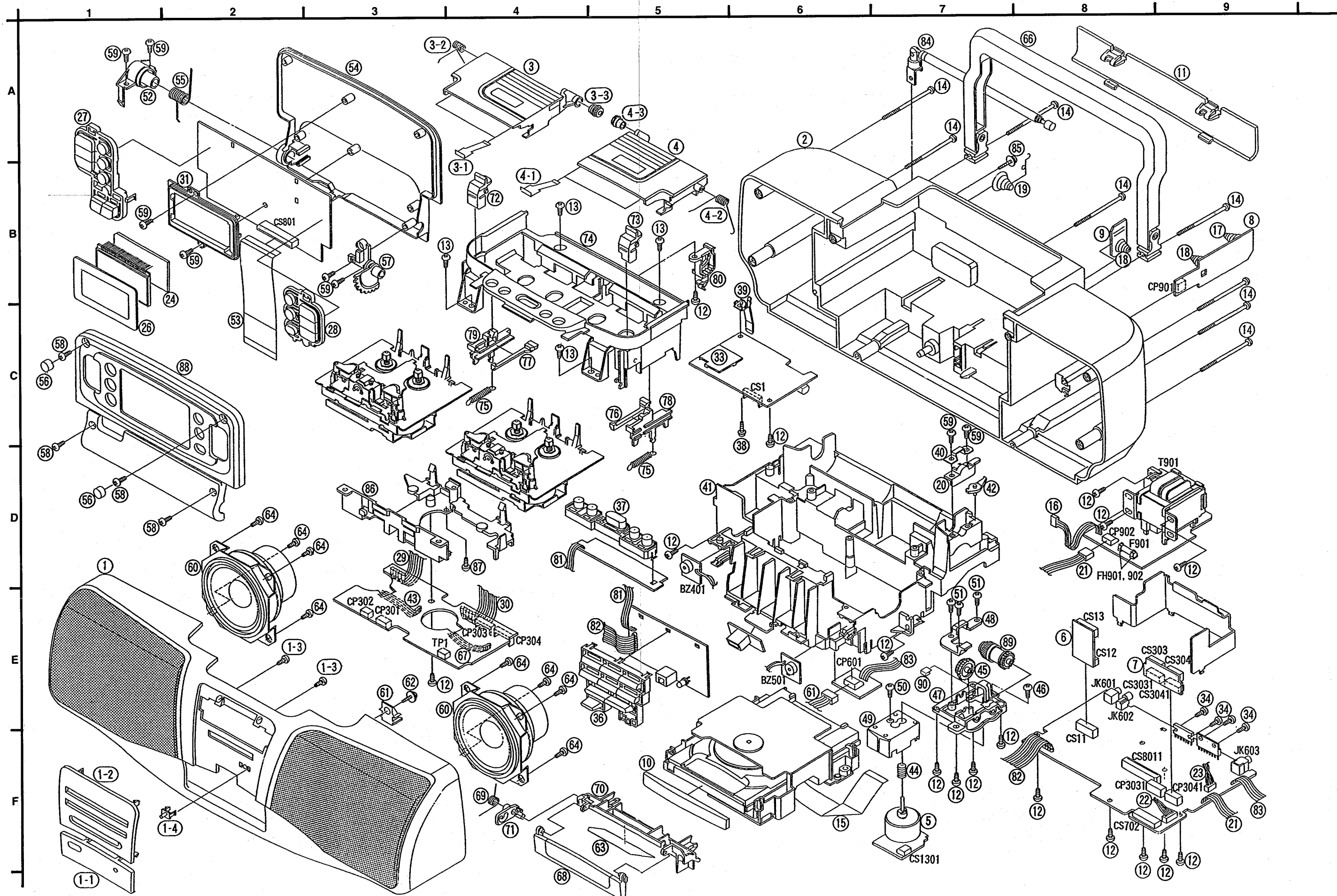
Mechanism Parts Location • DECK 1 (PLAYBACK), DECK 2 (RECORD/PLAYBACK)

Note:
When changing mechanism parts, apply the specified grease to areas marked "× ×" as shown in the drawing.

Ref. No.	Part Name	Part No.
A	FLOIL AK-152	SZZ0L18
B	FLOIL GP-501A	RZZ0L09
C	OIL #56	RZZ0L02



■ Cabinet Parts Location



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS		42	RMR0699-K	STOPPER	
				43	RWJ4704110KR	FLAT CABLE (W305/4P)	
1	RYK0498A-K	FRONT CABINET ASS'Y		44	RDG0250A	GEAR	
1-1	RFGKXDT07EGA	PANEL (SENSOR)		45	RDG0289	GEAR	
1-2	RFGKXDT07EGB	PANEL (SPATIALIZER)		46	XQN2+C6	SCREW	
1-3	XTV26+8G	SCREW		47	RMK0261	CHASSIS	
1-4	RGL0260-Q	LEADING LIGHT PANEL		48	RMR0801-W	ANGLE	
2	RKS0180A-K	REAR CABINET ASS'Y	(EG)	49	RSC0387	SHIELD CASE	
2	RKS0180B-K	REAR CABINET ASS'Y	(EB)	50	XQN2+C3	SCREW	
3	RYF0296-K	CASSETTE HOLDER (DECK1)		51	XTV26+12F	SCREW	
3-1	RUS757ZA	SPRING		52	RDB0063-1	HOLDER	
3-2	RME0158	SPRING		53	REE0583	FFC (40P)	
3-3	RDG0183	GEAR		54	RKF0387-K	COVER (DISPLAY)	
4	RYF0295-K	CASSETTE HOLDER (DECK2)		55	RMB0373-1	SPRING	
4-1	RUS757ZA	SPRING		56	RMG0249-K1	RUBBER	
4-2	RME0159	SPRING		57	RMS0330	DRIVE GEAR	
4-3	RDG0183	GEAR		58	XTN26+8GFZ	SCREW	
5	RFKPXD07-K	MOTOR ASS'Y		59	XTV26+8G	SCREW	
6	RFKBXDT07EGA	RELAY P. C. B. (TUNER)		60	EAS10P497E	SPEAKER	
7	RFKBXDT07EGB	RELAY P. C. B. (MECHA)		61	REX0629-1	WIRE ASS'Y	
8	RFKBXDT07EGC	BATTERY P. C. B. (MAIN)		62	RHD30044	SCREW	
9	RFKBXDT07EGD	BATTERY P. C. B. (BACK-UP)		63	RMR0820-W	SHEET	
10	RGK0656-K	ORNAMENT		64	XTV3+10G	SCREW	
11	RKK0010A-K	BATTERY COVER		66	RYH0016-K1	HANDLE	
12	XTV3+12G	SCREW		67	RWJ4704110KR	FLAT CABLE (W306/4P)	
13	XTV3+12GFZ	SCREW		68	RGPO419-Q	PANEL (CD)	
14	XTN3+40GY	SCREW		69	RMB0374	SPRING	
15	REE0584	FFC (23P)		70	RMK0260	BASE (PANEL)	
16	REX0626	WIRE ASS'Y (W901/3P)		71	RMM0124	CAM (CD PANEL DRIVE)	
17	RJC5112B	BATTERY TERMINAL (MAIN)		72	RGU1128-K	BUTTON (DECK1 EJECT)	
18	RJC751ZA	BATTERY TERMINAL (BACK-UP)		73	RGU1129-K	BUTTON (DECK2 EJECT)	
19	RJC91005	BATTERY TERMINAL (+/-)		74	RKQ0163A-K	TOP CABINET	
20	RDB0057	HOLDER		75	RMB0375-1	SPRING	
21	REX0625	WIRE ASS'Y (PW902/4P)		76	RML0236A	LEVER (EJECT 2L)	
22	REX0627Y	WIRE ASS'Y (CW790/6P)		77	RML0237A	LEVER (EJECT 2R)	
23	REX0628Y-1	WIRE ASS'Y (CW301/4P)		78	RML0353	LEVER (EJECT 1L)	
24	RMR0827-K	SPACER		79	RML0354	LEVER (EJECT 1R)	
26	RGPO422-Q	PANEL (LCD)		80	RMR0800-W	GEAR HOLDER	
27	RGU1126A-K	BUTTON (TAPE OPERATION)		81	RWJ5083080XX	FLAT CABLE (PW601/3P)	
28	RGU1127A-K	BUTTON (TIMER)		82	RWJ1109185XX	FLAT CABLE (PW602/9P)	
29	RWJ1107075QQ	FLAT CABLE (PW303/7P)		83	RWJ5004200XX	FLAT CABLE (PW604/4P)	
30	RWJ1110075QQ	FLAT CABLE (PW304/10P)		84	XEARR175ED-Y	ROD ANTENNA	
31	RMN0292	HOLDER (LCD)		85	XYN3+F12FY	SCREW	
33	RSC0326	SHIELD PLATE		86	RMK0259	CHASSIS	
34	XTV3+10F	SCREW		87	XTV26+10G	SCREW	
36	RGU1124A-K	BUTTON (OPERATION)		88	RFGKXDT07EGC	PANEL ASS'Y (DISPLAY)	
37	RGU1125-K	BUTTON (DISPLAY)		89	RFKNXDT07-K	GEAR ASS'Y	
38	RHD30006	SCREW		90	RMC0253	CLIP	
39	RJR0125	ANTENNA TERMINAL					
40	RMC0252	SPRING					
41	RMK0258	CHASSIS					

Note: The reference number SA represent the grease and tool used for this unit.

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPH653ZA	PROTECTION COVER	
P2	RPG2242	GIFT BOX	(EG)
P2	RPG2243	GIFT BOX	(EB)
P3	RPN0835	PAD ASS'Y	
		ACCESSORIES	
A1	RAK-RX157WH	REMOTE CONTROLLER	
A1-1	RKK0057-K	BATTERY COVER(REMOTE CONT.)	
A2	RJA0019-2K	AC POWER CORD	△ (EG)
A2	VJA0733	AC POWER CORD	△ (EB) <VRD>
A3	RQT2798-G	INSTRUCTIONS MANUAL	(EG)
A3	RQT2797-B	INSTRUCTIONS MANUAL	(EB)
A4	RQT2799-E	INSTRUCTIONS MANUAL	(EG)

Ref. No.	Part No.	Part Name & Description	Remarks
		GREASE OR JIG/TOOL	
SA1	RFKZ0048	EXTENSION CABLE	
SA2	RFKZ0024	EXTENSION CABLE	
SA3	QZZCFM	TEST TAPE (AZIMUTH/FREQ. etc.)	
SA4	QZZCWAT	TEST TAPE (TAPE SPEED etc.)	
SA5	QZZCRA	BLANK TAPE (NORMAL POSITION)	
SA6	QZZCRX	BLANK TAPE (CrO2 POSITION)	
SA7	SZZP1054C	TEST DISC (PLAYABILITY)	
SA8	SZZP1056C	TEST DISC (UNEVEN)	
SA9	SZZP1101C	HEXAGONAL WRENCH	
SA10	RZZ0101	SCREW LOCKING BOND	
SA11	RFKXEM30L	GREASE (CD MECHANISM)	
SA12	SZZ0118	FLOIL	
SA13	RZZ0109	FLOIL	
SA14	RZZ0102	OIL	

■ Packaging

